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★ AN ARMY FOR
THE 21st CENTURY

★ RETHINKING NATO
STRATEGY

★ WHAT KIND OF ARMED
FORCES AND HOW LARGE?

STATO MAGGIORE DELL'ESERCITO
III REPARTO
Ufficio Rivista Militare



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CONTENTS



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The aim of the Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. The Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

**An Army for
the 21st Century.**
(Umberto Cappuzzo)

2



**Major Armoured Units
in Italy.**
(Ferruccio Botti,
Nicola Pignato)

39

**The "Susa" Alpine
Battalion.**
(Carlo Cabigiosu)

54

**The Americans
in Vietnam.
War and Literature.**
(Marco Pasquali)

62

**Rethinking NATO
Strategy.**
(Vincenzo Tornetta)

14

**What Kind of Armed
Forces and How Large?**
(Gian Giuseppe Santillo)

26



Technical Data.

78

Book Reviews.

81

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AN ARMY FOR THE 21st CENTURY



Above: Modena - Ducal Palace. The Military Academy.

Upper right: Naples - The "Nunziatella" Military College.

FOREWORD

I should like to begin by anticipating and clarifying the substance of what I am about to discuss and explain its tone or, rather, my personal sentiments as I set about examining the question of **the future of our Army.**

I feel that this is necessary because, first of all, I want to ensure that what I am about to say and the way I am going to say it does not give rise to misinterpretations and, secondly, because I want the reader to understand exactly what I mean.

There is perhaps no other area that has been subjected to so much analysis, diagnosis and dogmatic recipes by so many self-styled experts as the military field.

This is because of the widespread belief, which might have been valid in the long distant past, but is certainly no longer acceptable in the technological age, that our military world does not fully belong to the scientific sphere, so that laymen feel obliged to have their say.

Until, that is, the military instrument has to be put to the inevitable test of its validity – war – because they then toss the ball back into the military court and pin responsibility squarely on the military leaders of the time. What is even more serious is that when they condemn a Commander out of hand, they choose to forget that that Commander has had to use an instrument which another Commander had previously prepared, subject to all the constraints by which he was bound at the time.

In a previous article I pointed out that before we can understand "the day after" we would do well to look carefully at "the day before". In other words, **failure in war is the result of the inadequacy of the state of the force's battle-readiness in peace time.**

The 2nd World War is a highly instructive example of this.

We may well wonder whether the Commanders at the time had ever really felt the need to draw the authorities' attention to the shortcomings and deficiencies before it was too late.

There is precious little evidence of this.

One may legitimately suspect that they could not – or would not – speak out.

In view of the errors of the past, let me say without mincing my words what I think about the Army today, "sine ira ac studio" – to quote

Tacitus's cautionary words – not to denounce or depress anyone, but merely to offer a word of warning and to urge the authorities to become more committed, and, if possible, to indicate a few goals to work towards. No recriminations are intended; we must look forward with optimism – the optimism of the will.

The **problems** we are required to face are extremely complex, and are hard to even define, let alone solve.

We are surrounded by doubts and bewilderment for a variety of reasons, but most of all because we are on the verge of a **turning-point in our history**, which may mark the changeover from one civilization to another.

The future that awaits us, in my view, will typically bear the **following features**:

- an increasing tendency towards the **"internationalization"** of relations between nations, in the sense that every problem will have repercussions that range beyond national borders;
- **electronics** will be mythologized in the search for every possible means of aiding man's work and productive activity;
- there will be an invincible need for **benchmark values**, interpreted in contemporary terms that will be tantamount to making a completely fresh start.

All three elements are directly relevant to – and will increasingly affect – the whole *raison d'être* of the Armed Forces, their structure, their existence and the way they operate.

Taking a philosophical approach, which is not technical in the strict sense of the term, one might be able to envisage the Armed Forces in a totally different manner from their present form, but one should be very careful not to fall prey to over-romanticizing and utopianism. This is not the purpose of my paper, at all events.

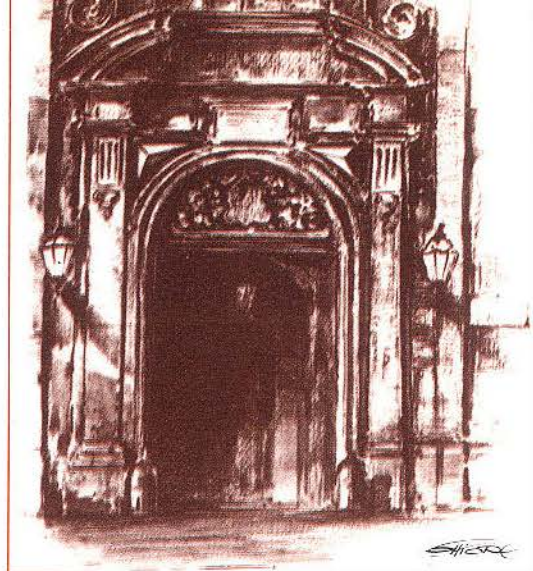
Despite the title, I do not intend to gaze into crystal balls. I shall try to start with what exists at present, sketch out the way I view the short and medium-term developments and steer clear of the long-term, to avoid falling into error.

I do not intend to take the detached approach from the vantage point of a man who looks down from above, but I want to try to see the problems from the point of view of the people who experience the problems of the Armed Forces in the ranks.

The reader might interpret this as a protest, bordering on anger. But he may rest assured. It will not be a protest, and even less a disconcerting outburst of anger.

All I intend to do is to spell out the situation, using plain language merely to indicate the moral tension involved in the effort to overcome the obstacles of the moment, in a spirit of service.

Without responding to facile accusations, let me recall that the problems connected in any way with the security function do not always find a ready audience, and that is not only true of Italy. Most of these problems require resources



if they are to be solved, and when put on a scale of priorities, they involve very difficult decisions.

I wonder whether the tendency to internationalize relations between peoples is a manifestation of the desire to overcome difficulties by placing them in a broader geographical setting to get many different countries involved in finding solutions to them.

The truth of the matter is that we are nearing the end of a century, and a millenium.

This rather obvious remark may not mean much in rational terms, but in practice, and in terms of actual experience, it is very significant and loaded with implications.

The future is full of **challenges** and **prospects for innovation**. **Technology** is fashioning new and more sophisticated tools in every sphere: communications, data processing, means of production and, last but not least, means of destruction.

Technological progress is a good thing in itself. We must do what we can to foster it; but what is even more important still, is that it must be used rationally and intelligently for what it is worth and for what it can offer us.

The danger is that we might consider it a vital part of a game, and forget its validity in terms of its cost:benefit ratio.

The technology challenge is a fact, however, and cannot be ignored; and it directly affects mankind in ways that far exceed its operational or productive potential.

It affects man's whole being, his education, his spiritual and moral strength, and the substance of the action of command.

All this is aggravated by the **moral challenge** which is coupled with the way in which moral values are being so rapidly reviewed, increasing the vulnerability of contemporary man beyond all proportions, leaving him increasingly prey to doubt and uncertainty.

Man today is tending, unconsciously, to over-emphasize **personal interest** at the expense of community interests in his relations with his institutions, with the result that jealousy prevails



Aosta - "Cantore" Castle -
Alpine Military School.

over emulation, selfishness over cooperation, and violence over moderation.

Almost as if to emphasize the contradictions of our age, the same citizen who shies away from the problems of his own community, takes upon himself the burden of the world's problems, undertaking duties and commitments that are far too great for him to cope with.

In practice, however, this leads to **disengagement**, and this is what always happens when people evade an immediate problem in which they are personally involved, by claiming that it has to be dealt with it in a broader context. It is a cosy alibi to avoid deciding on anything.

Challenges of this kind have arisen time and time again throughout history, and time and time again man has experienced a sense of utter discouragement and regret.

What characterizes our age is **fear**: the fear of extinction. We are faced with the sense of terror that strangely grips man as every millenium comes to an end.

In the year 1000 it was a mystical/religious fear which found its roots in the contemporary myth: the myth of the supernatural. The coming of the end of the world was linked to the supernatural, and related to it.

Yet since the spread of terror depended on the contemporary means of communication, it spread slowly and being religious in origin it was restricted to the Christian world.

Despite this, that fear had enormous repercussions, and held up the development of the Western world for centuries.

The physical world never came to an end, of course, but a great many microcosms did. And the period running from the fall of the Roman Empire to the year 1000 is very aptly called the "Dark Ages".

Over the next few decades the world is going to have to come to terms with the same fear, and this time it will involve the whole world.

The danger of a nuclear disaster has revived the same terror that gripped the world in the year 1000. And once again, the terror is linked to the contemporary myth: technology.

This time, however, the mass media have spread the terror more rapidly and broadly, and have accentuated it. And this time, the availability and the real power of the weapon of destruction – nuclear weapons – can wipe out the macrocosm.

Relatively speaking, the effect is the same as it was 1000 years ago: fear is hampering initiative, and almost paradoxically, it is fostering destabilization.

But are we quite certain that the removal of fear would also remove the risk of disaster? Is it not more likely that the risk would be greater, precisely as a result of removing the fear of the catastrophe?

The moral hurdles are even greater than the operational difficulties when dealing with the nuclear question; but as things stand at present, the nuclear issue cannot be set aside because



Turin - Arsenale Palace -
The Service Branch School.

there is no equally effective alternative deterrent to put in its place.

In a world in which contrasting blocs stand in a delicately poised relationship, the **need for security** is a fact that cannot be ignored or underestimated.

Security is the result of the interaction between many factors, of which the military factor is obviously not of secondary importance. To preserve security, the actual or potential power of the military factor cannot be viewed independently of a balanced combination of the other components – all of them forming part of a dynamic adjustment process for which the highest responsibilities of government have to answer.

I do not wish to dwell on analyzing the political parameters, but I must stress the vital need for a more broadly-based **democratic consensus** if the stability of the system is to hold.

Consensus itself is a security factor, since it underpins a wise defence policy based on credible instruments. In an equilibrium that is essentially a **matching of potential might**, military instruments have become the yardstick by which the credibility of a nation or an alliance is gauged; the yardstick of its will to pursue established objectives and to defend past achievements.

That is all there is to it. I think that the age of prestige-hunting is over.

Even the Superpowers themselves – and this can be seen from the difficulty they are finding in managing the crisis – are finding it impossible to make a show of their power. And while this is partly negative because it has drastically curtailed the arbitration function that has prevented many conflicts from breaking out in the past, it is a clear demonstration of the fact that the fear of disaster is stifling the boldest initiatives, thereby removing the dangers of a general war.

Nevertheless, there still remain considerable **margins for freedom of manoeuvre**, particularly in the periphery, far away from the forces that have already been deployed on both sides; this means that actions and reactions might degenerate into



Milan - Cusani Palace -
3rd Army Corps HQ.

purely local tensions, emergencies and conflicts.

International subjects looking on from outside and not wishing to sit back and merely watch the situation deteriorating, may feel the need to intervene to halt the crisis. Hence **it may become necessary to think in terms of resorting more frequently to military instruments as a means of ensuring the peace.**

Now while it would be foolhardy to commit financial resources to futile power games, it is a demonstration of farsightedness to try to achieve security – through alliances and by keeping an appropriate instrument in readiness – by striking an optimum balance between acceptable risk and financially and socially acceptable commitment.

Preparing for the year 2000 means coming to terms, in good time, with a changing world.

No miracles are required; having a broadly based master plan and the support of broader sections of public opinion would already mark a major step forward.

If nothing else, if more people were more aware of the situation, it would help to mitigate many of the causes of disappointment and bitterness, which are a source of considerable concern.

What are people expected to feel when faced with a world that sits back powerlessly, witnessing continual, brazen attempts to alter the worldwide equilibria, treacherous attacks on security, threats and blackmail?

How can we fail to be saddened at the sight of ambiguity, vanity, injustice, extremism, and mistrust reigning supreme and permeating the thinking of the powerful and the weak – of those who issue orders, and those who are supposed to carry them out?

There is no shortage of good reasons for disappointment in our own environment, in the narrow confines of my own branch of the Services.

But are we really sure that this is a peculiarity of the present situation, and something that only affects our own country? Are we really sure that in peace time we can always, everywhere, have more, and thus enjoy a state of prestige and

have an instrument that is fully adequate?

On the wall of an old sentry box in the fortress in Gibraltar an unknown hand has written something that we would all do to remember: that "all men worship God and soldiers when things go wrong, but when the war is over and everything is going smoothly, God is forgotten and the old soldiers are despised".

We are fortunate in that we are living through a period of peace.

But I think that, if we look at recent attitudes, it is no longer true to say that the military are despised.

We would naturally have to broaden this to cover the operational aspect in order to see how neglect of the "day before" could affect the consequences of the "day after", but this is hard to do, and even harder to get people to understand.

THE ARMY AND ITS PROBLEMS

The Army has many – perhaps too many – problems.

The most serious, whatever anyone may think, are those that face it as an organization, as a community of officers and men preparing for an event – war – which all of us are determined to prevent.

Here lies the key to understanding the sense of frustration and unease; but it is not enough. We must patiently try to clarify and explain matters to a society which is only apparently uninterested. If we insist, we shall manage to do away with the commonplaces and topple some of the myths that someone has created to play at dialectics or solve their own survival problems.

Being characterized by the prevalence of duty over rights, convinced obedience over authoritarian imposition, and service over power, the **military world** often clashes with a society which seems fashionably allergic to the appeal to lofty values: a society which adopts certain sham values that are the very opposite of civic sense and social solidarity.

This is a fact, and it is pointless dramatizing it.

Without renouncing the will to struggle to establish a concept that is of far greater social utility, our common commitment must be directed towards these contrary cultural patterns, to find a synthesis and coexist with them.

We have to recognize that the **identity crisis** also affects the military institution – ours as much as the others, all the others – and this is a crisis which sometimes slips out of our control.

According to the Italian Constitution, self-defence against an outside threat has a peculiar relevance and a constitutional basis that places it in a superordinate position to all other duties, and the legislators have established it as the common duty of all citizens.

Yet how many attempts have there been to make the secondary duties prevail over the essential duty, the optional over the compulsory!



Lido of Venice - "G. Pepe" Barracks.
"Serenissima" Amphibious Unit HQ.

In the quest for new formulae, some have even suggested that the military should be used as caretakers in museums, ignoring the fact that there are so many other solutions, all of which are far cheaper.

But this is only one example, and by no means the most striking. From time to time one hears the naïve suggestion that the Armed Forces **should no longer be closely connected with war matters, or with deterrence**, forgetting or pretending to forget that one can only justify having Armed Forces in peace-time to the extent that we can train ourselves to face up to an event that might be forced upon us.

Only here can we find the motivations that are needed to mobilize the officers and men to undertake an activity that demands abnegation and sacrifice, self-denial and dedication.

The **crisis** exists, then, and it is a real crisis. But we must not lose hope about our chances of overcoming it, and we have to exploit the notable successes we have achieved in winning over increasingly broader sections of public opinion and esteem.

In reality, the crisis seems to be fading, and a recent survey conducted by Pr. Prandstraller of Bologna University on a sample of 600 officers randomly selected by computer shows that the identity crisis is virtually non-existent now in the operational units – particularly the lower echelon units. The officer corps is working hard and enthusiastically. When engaged on their normal training and operational duties they find their identity in their small, but significant, daily achievements. When they are required to undertake emergency duties of whatever kind, they have a greater sense of their civic duty than anyone else, and shrug off any sense of discouragement and frustration.

Italy's consensus is closely bound up with the idea of the usefulness of military service in attaining the highest moral and social objectives. However, one cannot honestly say that the consensus on this is so broad that one might envisage every section of the national community being involved, even indirectly, in carrying through a common programme – the programme connected with "the security function".

There are signs of growing support, and that is already something, but it is not all. For too long, the Army has been relegated to a very low level in the scale of ethical values, with the results that we know all too well. Today, we are faced with the chance of making a new departure that we have to foster if we wish to establish our role as a locomotive force in society, leading it on to orderly progress in peace and freedom.

With this new mentality, we would hope that the authorities will lend a willing ear to our **material demands**, which mainly relate to the supervisory personnel of all three Services, and begin to provide solutions acknowledging the military class which has always generously given of its best without asking for anything in return, except



Above: Vicenza - "San Tommaso" Barracks.
Military District HQ.

Upper right: Padua - "Camerini" Palace.
Air Defence Artillery HQ.

in the respectful and subordinate form of its hierarchical relationship.

I am obviously referring here to the old, old problem of providing **salaries** cogent with the atypical nature of the military career, **career development**, **housing** appropriate to the mobility of the personnel, the **judicial protection of servicemen**, and so many other problems that have to be viewed in a comprehensive fashion to conserve the essential features of a status which cannot, and must not, be compared with the status of any other public service category.

Understood properly, in the sense we want it to be understood, uplifted to a view of life itself, the "military status" deserves special consideration overriding even salary matters, and to be placed on the plane of conserving values.

We have to promptly redress the errors that have been committed by applying inappropriate legal provisions and norms to the military field, to avoid a tendency to corporativism that is out of place in the Italian military tradition.

The financial aspect is simply an offshoot of the more important moral aspect.

This is the avenue we intend to pursue, and this is the path laid down by the Minister of Defence.

Without becoming over-optimistic, we may well hope that the principle is accepted.

Apart from material discomfort, the deep-seated reasons for dissatisfaction may be sought in **the functional inadequacy of the structures** in which the personnel have to work. This is professional dissatisfaction, and deserves all our respect.

In 1975, when the **restructuring** process began, a 10-year plan was drafted to make good the substantial quantitative shortfalls imposed on all the members of the Army, while enhancing the quality of the units.

Today, this programme is still far from being completed as far as the Army is concerned.

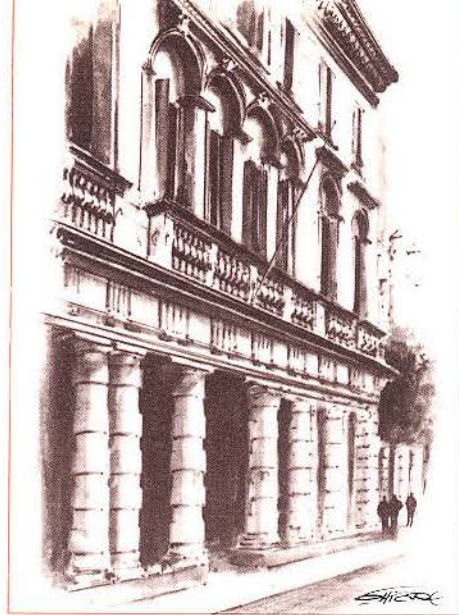
Only 30%-40% of the **objectives** have been achieved, and the result is that the Armed Forces do not enjoy that balance which is the fundamental condition for ensuring the efficiency of any operational instrument.

As in 1975, the Army is still facing a fundamental choice: to make a qualitative leap forward, or to face an operational rundown which could prove to be irreversible.

Meanwhile, other things have arisen since 1975 which have to be examined by the people who have to take the decisions.

While the objectives that have not been attained remain as valid as ever, and take up the normal budgetary allocations until the year 2000, new objectives will be added for the implementation of the programme to produce a third generation of military hardware to keep pace with the technological developments that are moving ahead at an increasing speed.

Apart from anything else, the Army is being further penalized by the fact that it has never been able to use indirect incremental funds, unlike



the other Services which have benefited from the incentives that have been granted at various times to the shipbuilding and aerospace industries.

This is certainly ascribable to the lack of a close linkage – a kind of "cartel" – between the industries which manufacture ground force systems, and the shortage of **financial resources**.

Comparing these resources with those available to the armies of other countries, we might well be struck by the enormous differences and wonder – in amazed satisfaction – how on earth we ever manage to do what we do.

Just think, for example, of France and West Germany, even making allowances for the different sizes of our respective armed forces. The Italian Army is allocated about one third of the funding made available to these two countries to procure new materials for the same number of operational units.

Moreover, France and the United Kingdom spend 36% and 26%, respectively, of their aggregate investment in the fields of **scientific and technological research** and the **development of prototypes**, while the Italian Army only spends 10%-15%, which is all it has available to it. The inevitable result is that it cannot carry through any major programmes and become independent of what is being studied and produced abroad.

Because of this state of affairs, the largest expenditures connected with the need to give precedence to Italian-made products should not be met solely out of the already slim military budget, but should come from other items as an incentive to industry.

One might object that all the Armed Forces are subjected to financial constraints. This is true. But not to the same degree!

Let us continue with these international comparisons, and borrow a lesson from the defence policy of a country which is not a Superpower, and which is not directly confronted by the threat of an enemy, and which has a long tradition of moderation and peaceful coexistence: Canada.

In Canada, defence expenditure accounts for 9.2% of the national budget (compared with

Italy's 4.2%). It allocates the equivalent of 87% of the Italian budget to sustain the equivalent of 23% of the Italian forces. That means that Canada devotes four times more than Italy to the same force size.

But let us return to Europe, and examine the Armed Forces in the Allied countries.

Compared with France, the United Kingdom and West Germany, the Italian Army has the lowest manpower:basic unit ratio (tank, squad, artillery piece): 53, compared with an average of 70 in the other countries I have mentioned.

In view of the number of basic units as the absolute minimum required to perform operational duties, this means that:

- the Italian Army is not as over-manned as people sometimes make out;
- the low ratio reflects either the low percentage of men serving with the operational units or the shortcomings in the support structure.

We could extend this examination to cover the whole of Italy's Armed Forces, which would show up the difficult situation our Army is in, but this is not the right place to do so.

When people talk about **balancing the instrument**, they restrict this to the "balanced force parameter" as far as the Army is concerned, and this is a mistake.

It would be more accurate to materialize this in terms of concrete defensive and offensive operational capability, unless we prefer to fall back on the empty rhetoric of the hundreds of thousands of bayonets.

One thing is, however, certain: when one compares the annual allocations for each basic unit, the Italian Army lags behind all the others, with one third of the finance earmarked to the Army in other countries in comparison with the two thirds which is given to the Navy and the Air Force, when even these are worse off than the navies and air forces of other countries.

All the Italian Services are under-financed, but the Army comes off poorly in domestic and international terms.

WHAT ARE THE PROSPECTS?

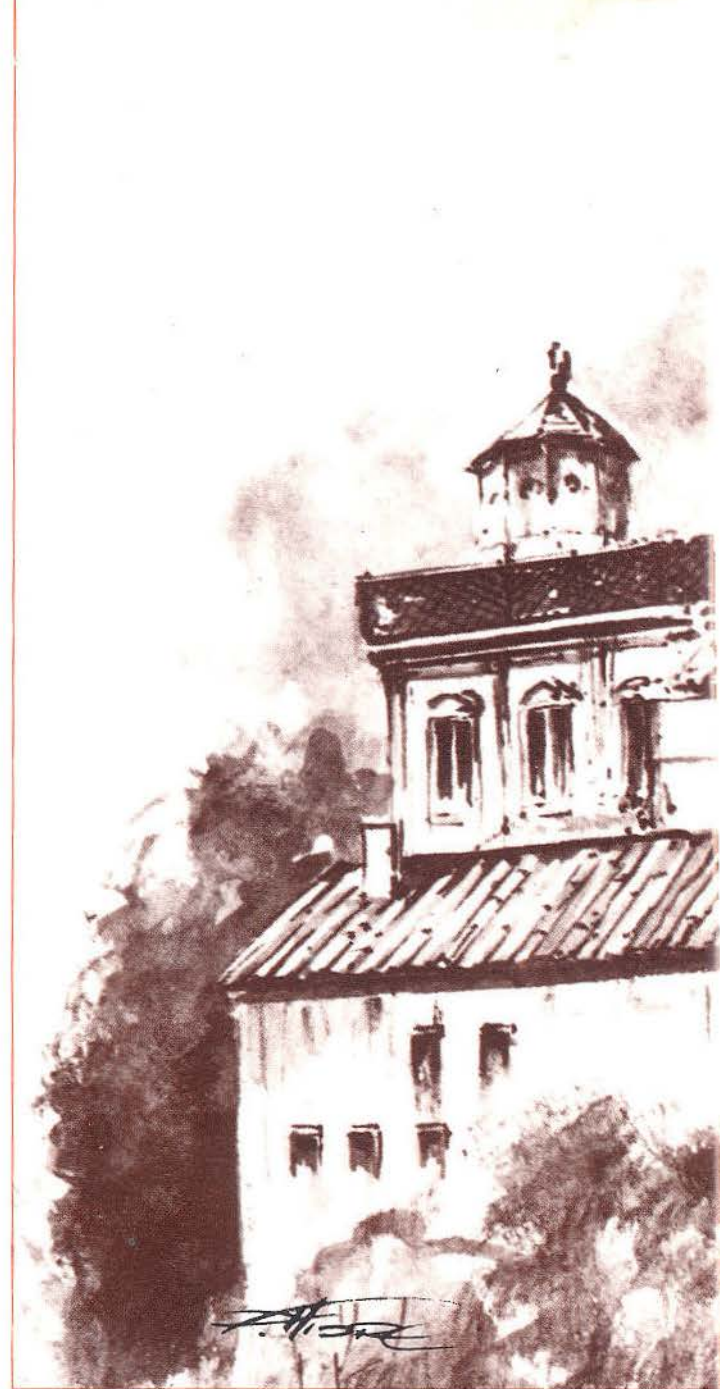
Despite so many problems, I am quite sure that something is moving in the right direction, even though the bare figures are not very hopeful.

In qualitative and quantitative terms, there are many urgent **needs**, covering every field in practice.

Modernization cannot be put off any longer if we want the Army to remain at credible levels.

The programmes drafted by the General Staff cover the **whole range of field unit equipment**: antitank defence, fire support, air defence, helicopters, command, control, communications and information systems, and armour.

With the financial resources allocated for the decade 1985-1994, about 80% of the objectives defined in 1975 may be possible to attain.



Provided that there are no operational changes or new orders in the meantime.

Other needs worth several thousand billion lire will remain unmet.

Corrective measures are therefore needed, and this is the responsibility of the Chiefs of Staff Committee, who must study the situation and submit concrete proposals to the government.

The Army in the year 2000 will therefore have its problems, which will be the same it faces today, heightened by the passage of time.

To complicate matters still further, developments in strategic and operational thinking are being joined by the **"Emergent Technologies"** which are already making their impact felt when deciding on the new equipment needed for fire



Persano - Royal Hunting Lodge - "Fagarè" Bersaglieri Battalion HQ.

support. Typical examples are the MLRS rocket launchers and the LANCE system.

As far as the exciting "Air Land Battle" prospects are concerned, MLRS will depend on the development of rockets fitted with terminal-guided submunitions, while the aging LANCE system raises the problem of having to undergo a radical revamping in its more powerful version ("LANCE 2") that can strike in greater depth (increasing the range from 80 to 200 kms).

Both the international programmes place us before two simple alternatives: either to do without them, with all the repercussions that this entails in industrial, technological and operational terms, or to join in and accept the costs that they give rise to.

The same applies to air defence, as far as the facilities under the control of the Army are concerned.

The HAWK system has been retained by having modernized it in stages when this was felt to be sound and profitable. But above a certain level, one must seriously think about whether it should be replaced. But this lies outside the province of Italy and the Italian Army.

However, it is time to open up a debate in order to agree upon a common policy.

To cover the operational units, a decision has been taken that I personally consider to have been an act of courage, in view of the faith that has been pinned on Italian industries: the "Sky-guard-Aspide" system.

The 24 systems which are to be procured will enable us to solve the problem of partly covering the Combat Zone, but will not solve the problem of the units operating in our Territory.

To complete the picture, we now have to refer to the likely replacement of the light 40/70 anti-aircraft system.

In addition to the pre-feasibility study conducted using NATO funds, OTO-MELARA has independently manufactured a 75/52 tracked version of the well-known naval gun which the Armed Force are viewing with great interest.

A separate section should be devoted to modernizing the armoured component and the combat tanks.

During the Nineties, the tracked vehicles in service (M 113 and its derived versions, the VCC 1

and VCC 2) should be gradually replaced by a new family of vehicles based on the VCC-80 (currently being developed), and are capable of being appropriately integrated into the tank units.

On the subject of the tank line, there are two short/medium term requirements to improve it: supplies and R&D.

By "supplies", I mean:

- replacing the existing M 47s, which are currently in service with eight of the existing 30 tank battalions, by setting about the production of an Italian 2nd generation tank and a wheeled personnel carrier;
- improving the performance of a certain proportion of the tanks in service by enhancing their fire power, armour and 105 munitions.

The second set of needs relates to R&D for a 3rd generation tank to replace the 700 1st generation tanks in their present version.

When one looks further ahead to the year 2000, the prospects are certainly not very reassuring, but if we are to successfully upgrade the Armed Force, we have to approach the problem with a great deal of optimism.

I am referring to the optimism of the will.

It is even more necessary to be optimistic – in view of the present shortcomings – when we are not only thinking of modernizing our facilities but also **renewing the infrastructures** that have been neglected for so long, and of **finding appropriate training areas**.

CONCLUSIONS

My original idea was to examine the problems of the future, but I have only highlighted the problems of today.

And I have done so by referring to something that we see happening everywhere today, without trying to identify any of the trends in international relations and force ratios. I have deliberately ignored any operational framework of reference.

I admit that this only tells part of the story. It would be very interesting to conduct a more thorough analysis by including the three Services in a number of **possible scenarios** to define what is demanded of them in terms of their duties and the manner of performing them, viewed in terms of strength, time and space.

This is what I have proposed to my colleagues on the Chiefs of Staff Committee.

In the meantime, what I have said here may be enough to explain where we are going and what we expect.

I confirm that much has been made and much can be made in the future.

Before anything else, however, we have to **solve the personnel problems**. Our men have to feel fulfilled within the Institution.

To achieve this, we can no longer defer recognition of the atypical character of the military career – which is so atypical that some people are



Above: Palermo - "Marchesi e Campanini di Casa Professa" Palace - Military Engineers HQ.

advocating demilitarization – laying down their duties and rights, benefits and services.

The increasing sophistication of our equipment requires **personnel with a longstanding experience** who can only be incorporated on a voluntary basis – and their salaries must be competitive.

With regard to the problems of mobility, and hence of housing, infrastructures and training areas, there are no differences of opinion as far as I can see.

To make up for the shortage of **essential materials**, decisions have been taken that leave no further room for doubt or perplexity, and Italian industry has been given a unique opportunity to show what it is capable of.

To avoid any misunderstandings and offer a word of hope and confidence, I defy anyone to say that no choice has been made.

The choice has been made. Those who now have to find the resources know the programmes; those who now have to manufacture the facilities must waste no more time in futile competition or search for additional sophistication to justify partial failures or delays.

Every sector has been spelled out quite clearly.

We have to accept the rationale that it is better to have a weapon or vehicle with sound average performance levels in a short space of time than to pursue the myth of increasingly more powerful performance to be achieved at some vague point in the future. In other words, we must have the facilities we need at the right time, if we are to implement a cyclical programme for real renewal based on the operational life of the facilities that are really available.

I do not illude myself by believing that now the choices have been made everything is going to proceed smoothly and rapidly.

Apart from the uncertainty of the financial factor, I know that the hysteresis of a system in which the operational and the technical/administrative structures are feather-bedded by checks and balances (that are more often than not purely formal) merely creates innumerable power centres and not a single centre of responsibility.

To be somewhat sceptical for a moment, I would be tempted to say that when someone wants to take on this responsibility, he sees his action hampered and diluted to such an extent that he has to admit his impotence.

I have said that "I would be tempted to ...", by which I mean that I do not accept what I have just said as it stands and without qualification, and I am trying to act and react as and when I can.

I have added nothing to what my predecessors have said and done before me. The only novelty is the way the outside world sees us.

The time is favourable for a **mobilization of public awareness, ideas and resources.**

Not only will the Army benefit from this kind of mobilization. The development of all the programmes I have referred to above require the

direct cultural and technological involvement of **Italian industry** which has now completed the phase of assimilating knowhow in a subordinate position, and is able to move ahead by independently manufacturing products of first rate quality.

The Armed Force modernization needs and plans are therefore an opportunity for a historical new departure in **relations between the Army and industry.**

Much will depend on what the MoD can offer before production can take off, Italian industry become firmly established, and new operational technologies and corporate philosophies be taken on board.

The national industry/Army osmosis is therefore another major factor to exploit, if we are to prove that the Armed Force cannot be considered to be a world apart that has to be kept alive at mere subsistence level.

With a little imagination, we might be able to find a way of fitting the item "Modernization of the Armed Forces" among those that form part of a **modern national economic/financial plan**, providing industry with reliable bases for drafting long-term production policies, and guaranteeing the Ministry of Defence a sufficiently long period of certainty that its budget will not be cut down at the eleventh hour.

In times of dismay one can sometimes despair about one's future, and fear that the solution to our problems may be deferred "sine die".

I do not claim to have offered you any certitudes. All I have done is to share with you what we would like to see happening.

According to contemporary thinking, and looking rationally at the problem, the Armed Forces – and that means the Army first and foremost – will still have a *raison d'être* as the next century dawns.

One thing is certain: the **increasing demonization of war** is going to weigh heavily on the Armed Forces. While this idea may be valid in moral terms, it leads to a disarmament of people's consciences and voids the use of military instruments, even when – as in our case – the Armed Forces serve a purely defensive function.

The declining birth rate and the rising costs of armaments will also have negative repercussions.

To deal with the first of these, a different relationship will have to be established between conscripts and career soldiers, which will entail higher wage costs.

The second problem can only be solved by finding new ways of pooling forces.

Is it not true to say that the constitution of rapid deployment forces on the part of certain countries is due to the need to differentiate the performance of different forces in terms of available resources, by creating military structures operating at different speeds?

Who knows whether this might not be the only way ahead eventually?

Umberto Cappuzzo

Growing attention by political leaders and the public has recently been paid to the problems connected with the NATO euromissiles. The debates regarding the intermediate nuclear forces (INF) negotiations in Geneva and the installation of the new intermediate nuclear systems in western Europe have taken two directions. On the one hand they have alerted large segments of the public to the potential dangers of nuclear weapons; on the other hand they have stimulated a rethinking of NATO's current strategy in the light of a balance of forces which in latter years has been considerably modified. Technico-military factors and requirements of a political nature have simultaneously brought forth a reconsideration of the Atlantic alliance's defenses in Western Europe.

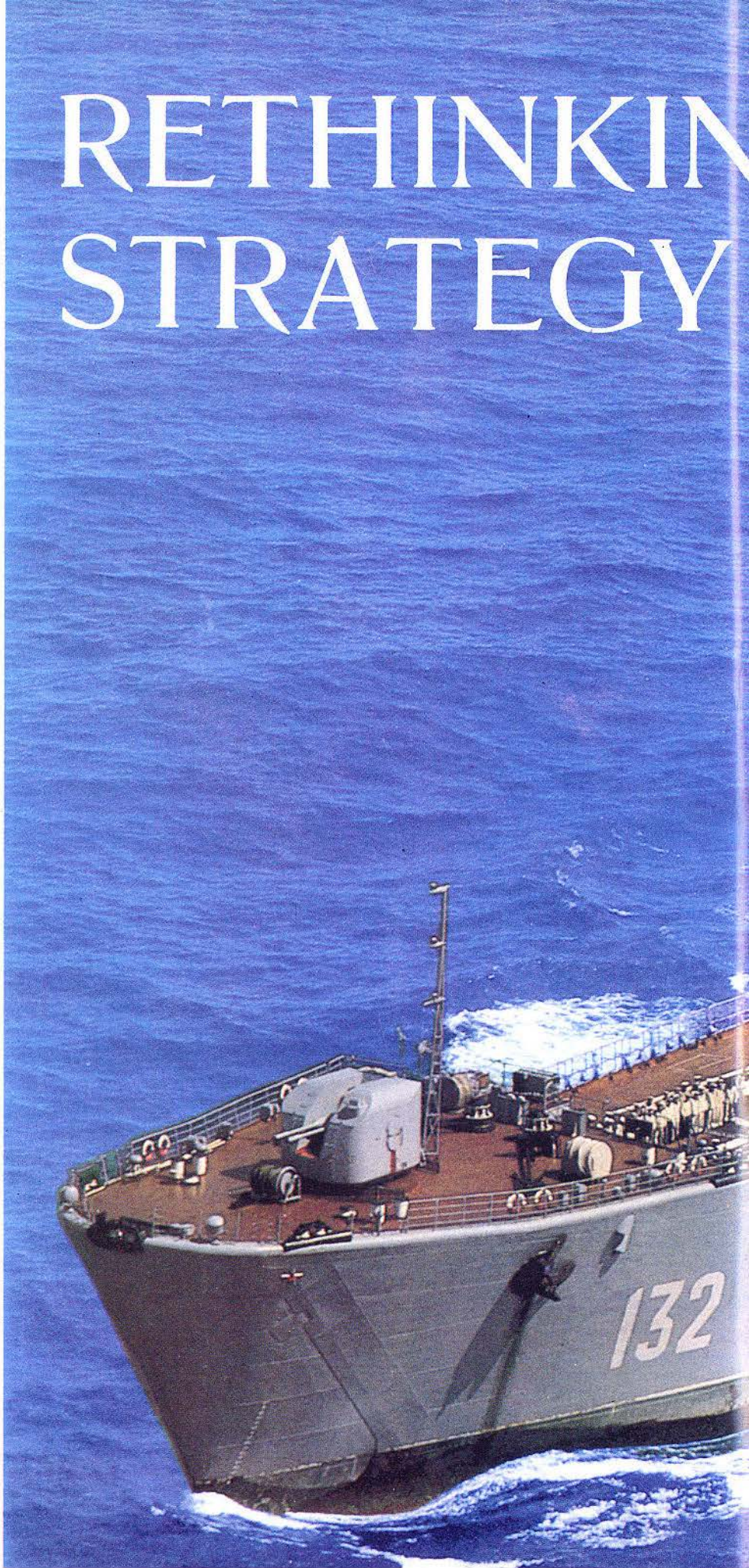
While the primary requirements of NATO's strategy – that of insuring a credible system of deterrence – remains the same, the military balance and the related political and public perceptions of the new situation have changed.

NATO's present strategy, adopted in 1967, is based on the principles of flexible response and forward defense. Such a doctrine – the main lines of which had been drawn up in the early 1960s – was adopted when the United States had already lost its nuclear monopoly but still enjoyed a relevant nuclear superiority.

This strategy, which presumes the capability to choose between various options and to control the various phases of nuclear escalation, implies a clear superiority which allows the freedom of controlled choices without having to accept, in an uncontrolled way, the choices and the options of an adversary who has become much more powerful.

Therefore, while the official NATO doctrine remains unchanged, the problem, which is becoming more evident, is to evaluate if and when such a strategy – conceived in a situation of a substantial nuclear

RETHINKING STRATEGY



G NATO



superiority – should remain fully valid when such superiority no longer exists. Today, the situation roughly corresponds to global parity but also presents substantial shortcomings in other critical areas. Finally one has to consider whether the changed balance of forces calls for some appropriate adaptations or whether it is necessary to reconsider the basic features of this strategy.

Senator Sam Nunn in a report issued in May 1982 (1) says: "NATO remains wedded to a military strategy – flexible response and forward defense – whose viability has been severely compromised by profound changes in the global and European military environment". "This strategy" – he adds – "was adopted at a time when NATO possessed pronounced strategic and theater nuclear advantages over the Soviet Union and the Warsaw Pact". Senator Nunn underlines that this situation has been profoundly modified during the last fifteen years:

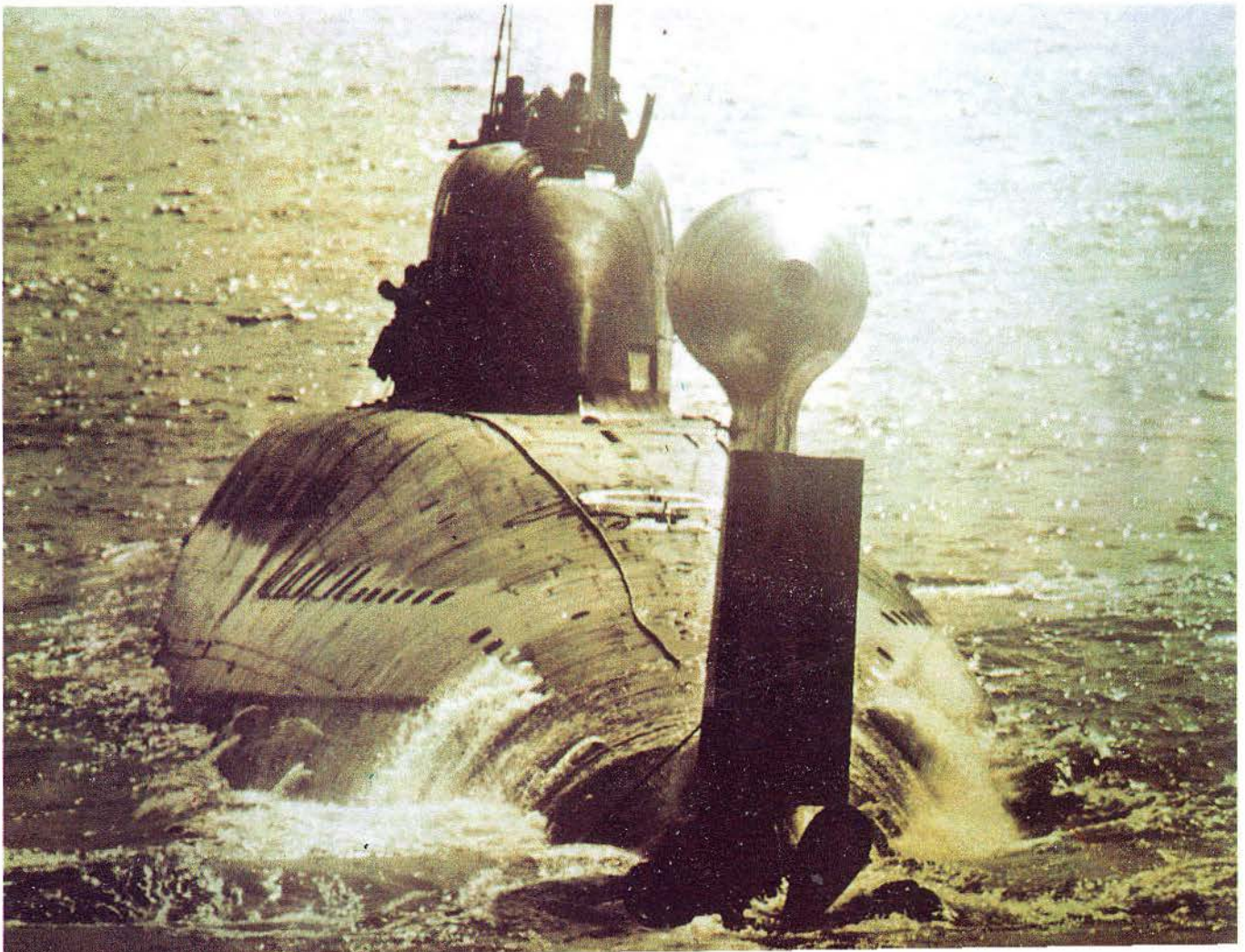
"Thus as NATO enters the 1980s", he concludes, "it confronts a military environment characterized by strategic nuclear parity, growing theater nuclear inferiority, and a continuing lack of a credible conventional capability".

Henry Kissinger also elaborated on the strategic unbalances in Europe in two significant lectures delivered on the continent (2). In 1979 Dr. Kissinger stated: "NATO is reaching a point where the strategic assumptions on which it has been operating, the force structures that it has been generating and the joint policies it has been developing will be inadequate for the 1980s". In 1982, in The Hague, developing the theme of the nuclear structures in Europe, Kissinger observed that "the real issue before us will be the nature of deterrence and its components", adding that "technology would have imposed a reconsideration of existing strategy in every event".

The decision of the NATO Council on December 12, 1979 to proceed with the modernization of the intermediate nuclear systems in Europe, represented an important step toward a strategic restructuring of the NATO forces in order to align them with the changed situation.

The recognized parity which had been achieved between the central strategic systems of the two superpowers – systems which now tend to neutralize one another – left Europe uncovered. The central strategic shield of the United States had become like a blanket that was too narrow to extend efficiently over the old continent. While the preexisting Soviet SS-4 and SS-5 missiles aimed at Europe had not caused any particular alarm, the system represented by the new SS-20s is regarded as an unacceptable threat and calls for adequate countermeasures to reestablish the equilibrium.

In fact, with the installation of a powerful system of inter-



mediate strategic missiles, keeping the whole of Europe under their range, the Soviet Union shouldered a serious responsibility. The Soviet leaders have certainly violated the spirit, if not the letter, of SALT II which recognized a global strategic parity between East and West. It is certainly surprising that the Soviet leaders did not consider the fact that the Western alliance could but react to such a serious threat which could not be justified by any real military defensive need. After the USSR had obtained recognition of strategic equality with the United States, it altered this balance in a flagrant way, threatening the European side of NATO.

Western Europe found itself in an intolerable strategic subjugation with respect to the USSR. The prevalence of the new intermediate Soviet systems has no longer been balanced by an external superiority of the United States. From a political point of view, Europe's position

has been seriously undermined since Europe is not a peripheral theater. Western Europe expects to see its centrality in the western strategic system fully recognized. In this context the modification of the denomination of the new systems theater nuclear forces (TNF) to intermediate nuclear forces was significant. These systems must be considered strategic in nature. They represent a projection of the U.S. central strategic systems with the task of shielding the European pole of the Atlantic alliance.

The decision to deploy NATO's new intermediate systems represents an essential element in the updating of NATO's strategy in order to reestablish in Europe a credible deterrence at the strategic level without having to count in every instance on a more hypothetical reliance on the central systems of the United States.

Another situation which in recent years has seriously been modified to the detriment of

In the first page.

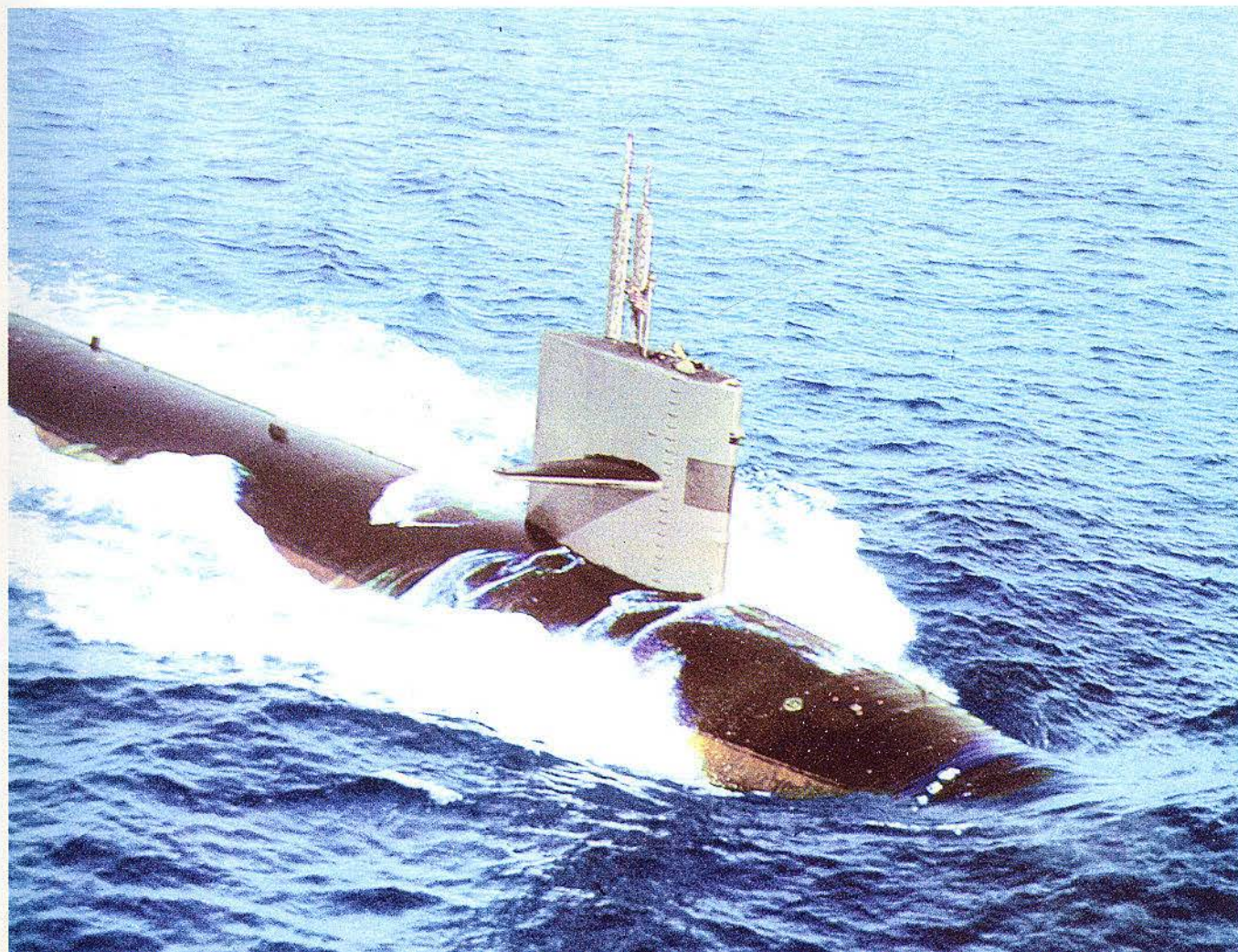
Class "Ivan Rogoff" amphibious assault carrier. This class has a full load displacement of 1300 t, can carry a Marines battalion with all its trucks and have a dock, a flight deck and a hangar for helicopters.

Side page.

Class "Victor III" soviet SSN. This class has an equipage of 115 men and a full load displacement in submersion of 6000 t. The standard weapon system is normally made by 8 anti surface vessels and anti submarines 533 mm torpedoes, 2 nuclear anti surface vessels, 15 kt torpedoes and 2 nuclear SS-N 15 or 16 missiles with a charge of 15 kt.

Below.

Class "Sturgeon" SSN. This class has an equipage of 134 men and a full load displacement in submersion of 4700 t. The standard weapon system is normally made by 17 anti surface vessels MK 48 533 mm torpedoes and 6 anti submarines missiles.





NATO is certainly that of the short range tactical nuclear systems deployed in Europe. Proposals and programs for modernizing this type of force have not been amiss in recent years. It is enough to recall, in this connection, the complex discussions and polemics related to the program of introducing the neutron bomb in NATO's European arsenals. That program was cast aside in 1978 because of the political difficulties and because it was deemed appropriate to give priority to the intermediate systems whose introduction was considered of more urgent nature.

Meanwhile the complex and by no means unimportant problem of the short range nuclear systems still remains unsolved. In fact it concerns quantitatively the largest number of nuclear warheads (about 6000) already deployed in Western Europe, the

greater part of these introduced towards the end of the 1950s and during the 1960s. These systems, on the whole, are rather antiquated. On the other hand in recent years the Soviets have not limited themselves to the production of SS-20 missiles, but have also been active in producing "smaller brothers", such as the SS-21, SS-22, and SS-23; weapons of shorter range, but technically very advanced. The introduction of new Soviet planes with nuclear capability should also be added to this picture. In this situation the short range nuclear systems of the alliance have lost most of their deterrence capability. Their possible defensive use has become less credible since they would be counterbalanced by similar but more articulate and modern Soviet systems. It is far from certain that a nuclear confrontation, even if circumscribed to these

tactical levels, would be favorable to the West, while having devastating consequences for European territory. The realization of this deterioration has been one of the main factors for prescribing and in fact imposing a substantial strengthening of the conventional defenses in Europe, with the purpose of avoiding for as long as possible the need of employing nuclear weapons.

The requirement to strengthen the conventional defenses of the alliance has become more real and urgent. In 1978 NATO adopted its "Long Term Defense Program", establishing the principle of "force goals" for each member nation, agreed upon and updated biennially with the aim of achieving an average yearly increase of military expenses of 3 percent in real terms. Since the early 1970s, the European allies have made substantial



progress in strengthening their forces although present levels are not considered sufficient. Actually an adequate reinforcement of the conventional forces is a very complex, slow and expensive operation especially in times of widespread economic difficulties. General Bernard W. Rogers, Supreme Commander of the Allied Forces in Europe, in a recent analysis has estimated that the achievement of an adequate defensive structure based on conventional forces would require an average increase of the European allies' military budgets of 4 percent yearly, in real terms, for a decade (3).

It is not surprising that the modified balance of forces and the real or presumed dangers of the new situation attracted the attention of public opinion in the West. During the last two decades, public opinion, both in Europe and the United States,

seemed to accept with equanimity, if not detachment, the military realities of the nuclear era. The existence of a nuclear umbrella appeared, on the whole, reassuring to the general public and especially to the younger generations who had matured taking peace for granted.

But in fact the dangers, either real or presumed, of nuclear weapons have suddenly been perceived as more concrete and imminent. These perceptions have substantiated widespread fears that the eventuality of a nuclear conflict, once considered a hypothetical and almost abstract possibility, has become increasingly real and alarming.

Thus, movements of different cultural and political origin, having different pacifist, neutralist or unilateralist backgrounds, have gained momentum and substance on both sides of the Atlantic. A deeply rooted and

Side page.

The british aircraft "Jaguar". The "Jaguar", developed by the french-british manufacture Sepecat, is used by the Royal Air Force in BAI (Battefield Air Interdiction), CAS (Close Air Support) and TAC RECCE (Tactical Reconnaissance) missions.

From top.

The soviet aircraft MIG 21 "Fishbed". The "Fishbed", whose standard weapon is a 23 mm gun, can carry 1500 kg of war-load, is equipped with an all-weather radar and has been built in 15000 pieces.

The soviet aircraft MIG 21 "Flogger". This aircraft has great armoured plates on the sides of the pilot cabin, its standard weapon system is a 23 mm gun and can carry a war-load of 2000 kg.

deeply felt antinuclear protest is their common denominator.

At the origin of these movements one does not find only interested outside influences if there are external propaganda manipulations. Within these movements, the direct participation of religious hierarchies at the highest level, of authoritative scientific communities, and of democratic political groups is sizeable.

There have also been some important and respected individuals in the strategic and military field who have openly advocated directives of "no first use" of nuclear weapons. The first signal of this came from the United States in the spring of 1982 in an article signed by four eminent men, who during various periods and under different administrations, held influential positions in shaping and directing the military policy of the United States (4). More recently there have been public declarations along similar lines by important European military personalities, such as Lord Carver, formerly Chief of British Defence Staff, and the former German Generals Krause and Loser. In February 1983, there was a pronouncement by the Synod of the Anglican Church and subsequently the American Catholic Bishops published their well-known document on nuclear weapons.

These movements certainly deserve careful consideration and evaluation, and, where appropriate, rectification. They can no longer be ignored or dismissed. An alliance of democratic countries, such as NATO, must preserve a wide basis of consent and act in such a way that its directives be clearly understood and accepted.

Thus there is a need not only to carefully evaluate the consequences of the modified balance of the military structure but to attend to certain opinion movements, which meet with larger and more qualified support. For various reasons these movements tend to cast doubts on some of the fundamental strategic directives of NATO which until recently remained

unchallenged and were generally accepted.

This situation should engender an active reconsideration of NATO's present strategic directives in order to continue to insure an effective and credible deterrence, without which the very structures of the alliance would be jeopardized.

In conclusion, there are requirements of a military nature and exigencies of a political nature which are emerging in an increasingly conspicuous way. These requirements – military and political – should not be considered as antithetical. They must be harmonic complementary elements – indispensable to an efficient system of alliance defense. This system must be based on an efficient military and strategic structure and on a broad consensus of opinion at the political level.

Together with the modernization of INF the main problems which currently confront NATO are undoubtedly those concerning the conventional defense of the alliance. On both sides of the Atlantic there is a clear realization that conventional defensive structures in Western Europe should be strengthened in order to reach more adequate levels of efficiency and credibility.

Although there is agreement regarding the need to reinforce conventional defenses in Western Europe, agreement has not yet been reached regarding the possible aims and the concrete results which can be expected in the short and long terms from such programs (5).

Raising the nuclear threshold certainly represents the most important objective. Nevertheless it is still doubtful whether it is possible to reach such a credible level of conventional deterrence allowing the renunciation, in all circumstances, of the option of first use of nuclear weapons even at the tactical level (6).

Many authoritative sources have recently elaborated on various aspects concerning the strengthening of conventional defenses, in particular the promising possibilities of advanced

technologies and newer more appropriate operational concepts (7).

A more confident evaluation of the potentiality of the allied conventional forces in Western Europe has been developing. A more realistic evaluation is taking shape that, in the medium term and with relatively limited financial efforts, can achieve a more credible and efficient system of conventional defense of Europe.

Without going into the details of this complex and important debate, I shall limit myself to underlining the evaluation of General Rogers that "a realistic deterrence in Europe will continue to require the plausible threat of nuclear escalation by NATO" (8).

Western Europe's defense requirements are particularly complex because they are conditioned both by the military balance of forces, which is modifiable, and by the geographic and strategic situation, which is not. Geography puts the European allies in a difficult defensive position. The potential enemy, the Soviet empire, is a compact and centralized continental colossus which, through internal lines, can move and concentrate its forces and resources; while the Western European countries find themselves in a peripheral position lacking territorial continuity and having difficulty with communication links. Moreover they are separated by an ocean from their principal ally and from essential supply sources. Finally, Western Europe lacks territorial depth and is bound to forward defense. It cannot give up space in order to gain time. It cannot fold back on those strategic retreats which on two occasions saved Russia, first from Napoleon's invasion and second from Hitler's.

These geographical and strategic constraints imply that Europe's defense requirements – and particularly the need to

The launch of an U.S. "Pershing II" missile. The deployment in Europe of this type of missiles, which have a range of 1800 km, began in 1985.



insure a credible deterrence – go beyond a pure and simple balance of conventional forces, because geography may play against the continent. As General Rogers said: “even if we were to develop a conventional defense during this decade along the lines described, we could never be certain of success without eventual recourse to nuclear weapons”.

This situation confronts the alliance with a serious dilemma: the impossibility of renouncing the potential use of nuclear weapons, and simultaneously the unacceptability of a nuclear exchange on the continent even at the tactical level which, particularly in the present balance of forces, might be devastating (9).

An agreement between the two alliances on a balanced deployment of forces might resolve the dilemma. Such an agreement might be achieved in the framework of the negotiations for the Conventional Arms Control in Europe (MBFR). Such negotiations have now been going on in Vienna for about a decade without appreciable results (10).

Past experience certainly does not give encouragement for the outcome of these negotiations. Nevertheless there is a framework for negotiations which might positively evolve. In any case this forum can be used by the West to clarify its positions.

In the meantime, NATO should continue to rely upon a credible system of deterrence which cannot exclude the option of nuclear use. This option – taking into account the present military realities, and the weight of public opinion – should be precisely qualified and circumscribed in its aims and components. First it should be made clear that this option is being retained because of the present imbalances of forces. It should also be specified that such an option cannot be renounced until verifiable agreements on force levels, suitable to prevent surprise attacks or concentration of forces, are reached (11).

The retainment of such an option of limited nuclear first use should therefore be clearly specified in its strictly defensive nature, and in the territorial depth of its possible use, corresponding to the depth of the battlefield.

NATO should declare that while retaining this limited nuclear option in the tactical

field, it has no intention of taking a first step towards a nuclear escalation with that limited use.

NATO should also clearly stress that in the eventuality of the use of nuclear weapons at any level by the Soviet Union, it will respond at the level of the intermediate systems, against military objectives in the Soviet territory itself directly or indi-



rectly connected with the ongoing aggression, although avoiding affecting the Soviet strategic systems (12).

Italian 105/14 howitzer.
Italian paratrooper while employing a 105/14 howitzer. This gun has a maximum range of 10500 m, a load of 1290 kg and is decomposable.



NATO's intermediate strategic systems deployed in Europe would basically deter the use of any nuclear weapon by the enemy. Consequently the Soviet Union would also receive the assurance that such systems would not be employed for a first strike or surprise attack. NATO could also take into consideration a formal "no first use" declaration of its intermediate systems, which would acquire in this case an exclusively deterrent function.

As the alliance limits its response in Europe to the level of the intermediate strategic systems, at the same time avoiding an attack on Soviet central strategic systems, the decision to have recourse to these central systems would be transferred to the Soviet Union, who would therefore be responsible for initiating a nuclear escalation at the highest strategic level.

A policy declaration by NATO, along the above-described lines, would represent an updating and revision of the current official strategy of the alliance. It would clearly circumscribe the function of NATO's INF in Europe as a deterrent against any use of nuclear weapons by the enemy. In this way the public would be assured that the aim of these systems would be to deter the Soviets from using their nuclear weapons against Europe, thus eliminating the prospect of a gradual devastating nuclear confrontation limited to the European territory.

Second, while the alliance would retain the option of a tactical use of nuclear weapons, this option would be clearly limited in its scope and might be conceived of also as temporary and negotiable. The possible negotiating proposals which NATO might advance for a better balance of conventional forces

in Europe could represent a further justification of such a limited tactical first use and might be given up only when the present imbalances have been eliminated.

Finally it must be born in mind that NATO's strategic doctrines have essentially been openly enunciated along fundamental lines; such a requirement is even more important today than in the past. The means and implications of this strategy of deterrence should be clearly known and evaluated by the potential enemy in order to avoid serious miscalculations and adventurous initiatives. Moreover the alliance's strategy must be understood by the public since the loss of its support would undermine the very credibility of deterrence.

There have been, and still are, some deliberately vague areas in the alliance's strategic directives. The purpose of these is to keep the adversary in doubt about the nature and level of NATO's response. Nevertheless such vague areas have also created in public opinion some misunderstandings concerning NATO's real intentions and have provided elements for hostile propaganda. Public opinion expects more clarity in policy declarations in order to insure broader and more convinced support of our democratic societies for the defense policy of the alliance.

Taking into account the requirements of a changed situation since 1967, the Alliance may also consider to be appropriate to maintain the definition of "Flexible Response" to its official strategy. The real problem is to update its concept to the new realities, both political and military.

Vincenzo Tornetta

NOTES

(1) "NATO: Can the Alliance be Saved?" Report of Senator Sam Nunn to the Committee on Armed Services, United States Senate, May 15, 1982.

(2) "NATO: the Next Thirty Years" Remarks by the Honorable Henry Kissinger (Palais d'Egmont, Brussels. Sept.

1, 1979). "Geri Joseph Foundation Memorial Speech", by Henry A. Kissinger. The Hague, May 12, 1982.

(3) General Bernard W. Rogers: "The Atlantic Alliance: Prescriptions for a Difficult Decade". Foreign Affairs, Summer 1982.

(4) "Nuclear Weapons and the Atlantic Alliance" by McGeorge Bundy,

George F. Kennan, Robert McNamara, Gerard Smith. Foreign Affairs, Spring 1982.

(5) The European allies' contribution to common defenses appears not to be sufficiently known and appreciated in the United States of America. A recent booklet issued by NATO headquarters, "Eurogroup: the Defense of Europe 1983", shows the following percentages of participation by the European allies to the forces deployed on the continent: about 90 percent of the ground forces; about 80 percent of the combat aircraft; about 80 percent of the tanks; about 90 percent of armored divisions; at sea, in European waters and the Atlantic, European allies provide 70 percent of the fighting ships. The above percentages do not include reserves. The evaluation of the European participation, moreover, cannot be limited to fighting forces but the various important infrastructures such as ports, airports, communication systems, etc. should be added.

(6) A very articulated debate on no first use of nuclear weapons was started in the spring of 1982 and is well known in its essential lines. This author has also dealt with the problem. (See Vincenzo Tornetta "The Nuclear Strategy of the Atlantic Alliance and the No First Use Debate" in NATO Review, October 1982). A recent article by the former U.S. Secretary of Defense Robert McNamara on "The Military role of Nuclear Weapons: Perceptions and Misperceptions" (Foreign Affairs, Fall 1983) forcibly develops the thesis that "nuclear weapons serve no military purpose whatsoever, they are totally useless except only to deter one's opponent from using them". He expresses the conviction that NATO

might realistically switch in the direction of a strategy of conventional deterrence.

(7) In his already quoted report (see note 1) Senator Sam Nunn develops interesting considerations on the use of the new technologies against attacking forces of "second echelon" and on a new global conception of air-land defenses in Central Europe.

(8) In the above mentioned article (note 3) General Rogers expresses the following considerations: "Moreover, even if we were to develop a conventional defense during this decade along the lines described, we could never be *certain* of success without eventual recourse to nuclear weapons. (We should also not lose sight of the tactical advantage to the defender resulting from his threatened use of nuclear weapons serving as a restraint on the tactical massing of Warsaw Pact forces preparatory to an attack). Hence while I argue that the nuclear threshold in Europe can and should be raised by improving NATO's conventional capabilities, *realistic* deterrence in Europe will continue to require the plausible threat of nuclear escalation by NATO". (Italics by the author).

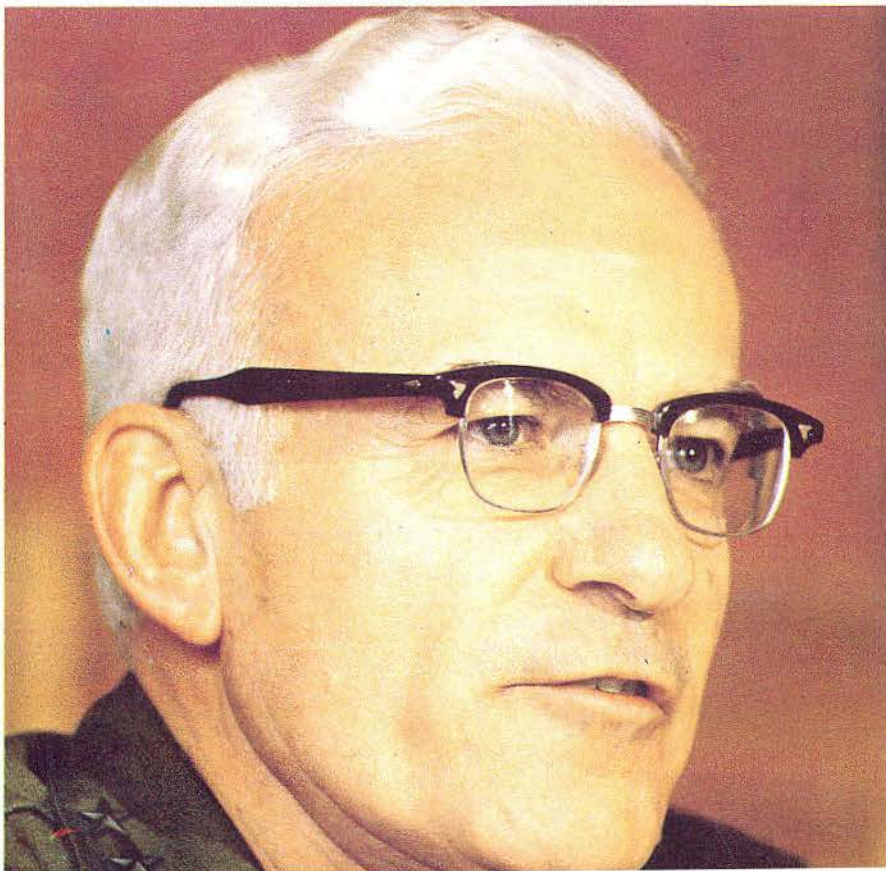
(9) It seems appropriate to recall in this connection the following statement Lord Carver, formerly Chief of the British Defense Staff: "At the theatre or tactical level any nuclear exchange, however limited it might be, is bound to leave NATO worse off in comparison to the Warsaw Pact, in terms both of military and civilian casualties and destruction". (The Sunday Times, London, February 21, 1982).

(10) In his well-known "Alastair Buchan Memorial Lecture" of 1977 German Chancellor Schmidt considered in detail the possibility of using the MBFR

negotiations in Vienna in order to reach an agreement on a conventional balance in Europe. Schmidt enumerated seven "musts" and "must nots" for such negotiations. Schmidt stated that in theory there existed "two possible ways of establishing a conventional balance with the Warsaw Pact states. One would be for the Western alliance to undertake a massive build-up of forces and weapons systems: the order for both NATO and the Warsaw Pact to reduce their force strength and achieve an overall balance at a lower level. I prefer the latter", he concluded, and added "Until we see real progress on MBFR, we shall rely on the effectiveness of deterrence". It must be borne in mind that in January 1984 in Stockholm, the CDE conference on European security, decided by the recent Madrid CSCE meeting, will begin. This conference will represent an additional East-West forum on security problems.

(11) An interesting negotiating hypothesis in this connection has been put forward by Senator Sam Nunn in his already-mentioned report. According to Senator Nunn, once an adequate strengthening of its conventional defenses has been achieved, NATO could take into consideration, with the Warsaw Pact, two parallel and interdependent pledges: the one of no first use of nuclear weapons (tactical) and the other of no large concentrations of conventional ground forces, with special emphasis on armored forces, within specified distance of the borders: the violation of this latter pledge would render null and void the first.

(12) A similar hypothesis to the above has been illustrated by Ambassador François de Rose in his article: "Inflexible Response", Foreign Affairs Fall, 1982.



With reference to this article - originally published by the *Washington Quarterly* in its Summer 1984 Edition - the Supreme Allied Commander, Europe, General U.S. Army Bernard W. Rogers, addressed to the Author the following letter which we are glad to publish, here on side, with the General's authorization.



SUPREME ALLIED COMMANDER EUROPE
SHAPE, BELGIUM

8 NOV 1984

Dear Ambassador Tornetta:

Thank you for your kind letter of 1 October 1984. I read your Washington Quarterly article with interest, and found much with which to agree.

I share your concern that NATO's deterrent strategy be understood and supported by our people. In order to convey the resolve necessary to convince the Warsaw Pact that the Alliance will implement the options of our Flexible Response strategy, we need the willing support of our publics.

You will recall that I do not believe there is a requirement to change our strategy. Flexible Response, as currently composed, is the only strategy which, when supported by adequate forces, takes full account of the imperatives of deterrence in the European environment. The problem is, as you said in your article, NATO has not kept pace with the massive Soviet military buildup which continues.

We should never lose sight of the fact that NATO is a defensive Alliance. As such we will never fire the first shot of any war. Regardless of any force improvements NATO might make, NATO should not renounce the first use of non-strategic nuclear weapons. As long as we retain this option, the Soviets cannot rely on a relatively cheap and predictable conventional victory. Nor should we spell out in detail how NATO would respond to any specific act or manner of aggression. In my view this uncertainty has been a vital component of NATO's deterrence.

If the Soviets wish to avoid the danger of escalation to the strategic level, they need only refrain from initiating aggression in Western Europe. I agree with you that the future we all want -- peace with our freedoms intact, a more stable world environment and reduced and balanced levels of all categories of forces -- can be attained only at the negotiating table.

Our present strategy is logical and convincing; with dedicated effort I believe we can persuade our peoples that our policies and plans will strengthen peace as well as keep our freedom.

With all best wishes,

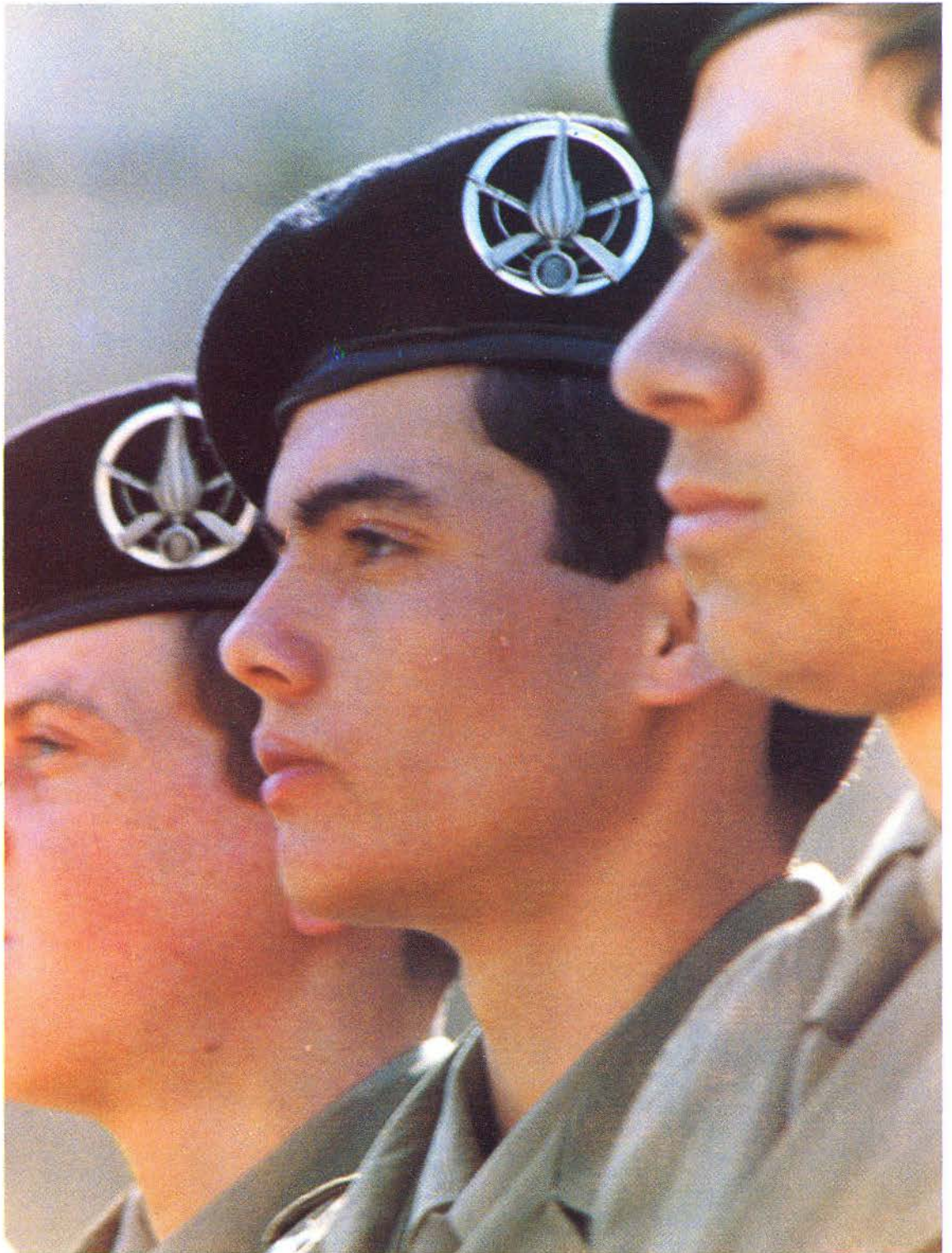
*Ann joins in
best wishes to
you both.
BWR*

Sincerely,

BERNARD W. ROGERS
General, U.S. Army
Supreme Allied Commander, Europe

WHAT KIND OF ARMED FORCES

AND HOW LONG?



After a long period in the doldrums, there has been a recent revival of interest in military matters in Italy. Another positive note is the fact that, while the matter was formerly dealt with by a small number of specialized publications, popularizing articles are now beginning to appear also in the general press. So far, however,

in treating the various topics, opinions and points of view not enough attention has been focused on what ultimately should be of direct interest to the general public, government authorities and members of the Armed Forces, namely the prospects concerning the army of "The 2000".

INTRODUCTORY REMARKS

Like all other manmade organizations, the army may be considered as being composed of several elements. One of the most important is of course its statutory purpose, as laid down in article 1 of law no. 382/1978:

"The task of the army is, in accordance with the oath taken and in obedience to the orders received, to provide for the Country's defence and to contribute to safeguarding its free institutions and the welfare of the national community in times of public calamity".

The other, equally important aspects, which are normally reserved to specialists on the subject, are the quantity and quality of the various elements, the coordination of their functions and their interrelationships.

The evolution of these elements often proceeds at different rates, so that the army can, to a certain extent, be likened to a living organism. Its rate of development is above all geared to the time required to get its personnel and equipment into a state of readiness. Under normal conditions, this takes at least 5-6 years for personnel on permanent duty and roughly twice as long for a new weapon or vehicle. To this must be added the time required to weld men and equipment into a single fighting unit and bring them up to the required level of efficiency. The time required is lengthened considerably if the organization undergoes any traumatic changes. For instance, the infantry battalions mechanized in 1975-76 actually achieved this state only after they had finally "understood" the APC. The same may be said of the Brigades, which managed to become combined arm complexes only after an indispensable period of "running in". It is thus incorrect to judge the structure of an army before it has been completed and assimilated.

For this reason, I do not share the criticism levelled at the organization that the army was forced to give itself in 1975, with only a very brief period of (also psychological) preparation and under emergency financial conditions. A complete break was made with tradition and the previous decades-old mentality, and a number of important functional sectors had to be left incomplete.

There are disadvantages, difficulties and problems on which, if only the examination could be restricted to certain specific sectors, an agreement can be reached in most cases. It is also true, however, that great caution must be observed in introducing any important structural innovation. It is much easier and quicker to destroy than to build or rebuild, and this step should be taken only when the drawbacks are objectively due to the organization itself and not to incidental causes which must be dealt with in ways not involving the organization of the forces.

A haphazard policy adopted in this field can only produce negative results in both the long and the short term. In the short term because it makes it impossible to achieve any degree of

"certainty" or knowledge of the forces involved, which is necessary if they are to be used properly. In the long term because the effect of mistakes only emerge years later, when it becomes difficult to eliminate the causes without jeopardizing natural development. Mistakes made in the personnel field are those that are paid most dearly. If a certain kind of equipment is found to be unsuitable it can in time be replaced, provided one is prepared to lose a certain amount of money on the deal. The same obviously does not apply to personnel that become redundant, or are in short supply or of the wrong calibre.



WHAT KIND OF FORCES?

Both Italian and foreign observers have repeatedly pointed out the interrelations between "quality" and "quantity". Although a separate examination of these two elements can sometimes lead to misunderstanding, some kind of schematization is necessary as several factors are involved in both.

I shall take for granted two observations that have frequently been made. The first is that there is usually a tradeoff between "quality" and "quantity". The second is that neither can be allowed to drop below a certain level without an irreparable loss in overall efficiency.

The problem facing the planner is how to identify the most effective balance between the two a dozen or so years in advance. The first reference is naturally the aim to be achieved, and here we must be quite clear. The fundamental task of the army is to guarantee the survival of the State as an expression of the citizens' choice, and the problem of survival must always be interpreted as mainly consisting of defence against external aggression. The relief of civilian populations struck by serious natural calamity is, it is true, one of the tasks of the military organization. However, this is, and will always be, merely a form of aid that is given within the possibilities

and limits of a structure designed for another purpose.

The chief aim of the army's organization must be to defend the country from external threats. Also in this field the situation may well change owing to the partial disengagement the United States seem to intend to carry out in Europe and to the attitude of certain Mediterranean countries. However, the effects of a process that has barely begun on the quality of the forces are still uncertain and, at least for the next few years, reference will continue to be made to the threat everyone is already familiar with.

The balancing of the various elements of command, fighting and support in the Armed Forces can be done in several ways, according to how the type and potential of the enemy forces and the environmental conditions are evaluated. Maximum effectiveness is achieved when the "support" (in the broad sense) does not contain redundancies, thereby enhancing the effectiveness of the actual fighting units. From the process that began in 1975 we can now start drawing a few conclusions about the army's structure as a whole. Care must be taken, however, not to confuse the "real" defects with shortcomings due to the still unsatisfactory functioning of several important sectors (command and control, survivability and logistical support) which, for various reasons, it has still not been possible to bring up to scratch.

Sometimes, however, this useful distinction is overlooked and a number of people, appar-

ently with some knowledge of the "state of the art" are already clamouring for a completely new configuration based on combined arm "regiments" with directly dependent companies/batteries, i.e. a kind of "mini-Large Units" equipped with the wherewithal required to fight autonomously, and commanded through tactical HQs of roughly divisional level by combined service HQs (1). The basic concept is sound enough, because cooperation is achieved and reinforced also by a series of practical and psychological factors that can stem only from the men living and working together. At least for the time being, however, such a change would be too radical, and would in any case presuppose above all a cultural substrate that has still to be created in Italy.

It would be preferable to proceed gradually, introducing the necessary and realistically feasible improvements to the forces' organization. The first objective of course is to put the finishing touches on the sectors still to be completed, particularly as far as the command and support organization is concerned. However, also the bulk of the forces, i.e. the basic infantry, could have its physiognomy partially changed as a result of decisions taken in two fundamental sectors: mechanization and the tank/antitank ratio.

The issue is topical in most of the western countries, each of which has either found or

(1) "Considerazioni sulle Forze Armate italiane: l'Esercito e dintorni" by P.F. Quinzio (Rivista Italiana Difesa, n. 3, March 1984).



envisaged its own solution. Considering the characteristics of the terrain in Italy, the cost of material and equipment and the problems of logistical support, the future could conceivably lie in some form of "light infantry" (2). This would consist of units capable of great mobility over different types of terrain and provided with excellent antitank capability, but trained to fight mostly dismounted. The only forces in need of actual armoured fighting vehicles would be the units needed for cooperation with tanks in their classical role of offensive and decisive weapon *par excellence*.

Furthermore, to take a longer term view, also our Army, operating as it does within the framework of NATO, will have to make up its mind whether, and to what extent, to accept the conception of *Airland Battle 2000* developed in the United States. As is maintained also by the military authorities of the Atlantic Alliance (3), the conventional forces should above all have their command and control capability boosted and be supplied with high-tech ammunition capable of striking the enemy in depth, exploiting all the potentialities of the emerging technologies.

Despite its many attractions, this conception is not without its drawbacks. The first obstacle to be overcome is financial. The costs of research and development are soaring, and even under normal circumstances the inflation rate for military products often runs even more than 25% higher than ordinary inflation. Secondly, there is a constant risk of becoming increasingly dependent on foreign industry. Account must also be taken of the fact that the new materials may not completely fill the bill and need to be integrated with others. This could lead to an endless spiral.

The big problem to solve thus consists of fixing a suitable and acceptable degree of sophistication. Under conditions of limited availability, priority would be given to those sectors upon the efficiency of which the entire military organization was dependent – i.e. the so-called C3 (command, control and communications, including the capacity to acquire information and to interfere with the enemy's capacity to do so), force survivability (anti-aircraft, anti-tank and NBC defence) and logistical support. Technological improvement in all the other domains would then depend on the residual financial resources available.

Of course a few fundamental rules must be followed: to have no more than three generations of the same equipment in service at any one time, so as to avoid having to replace expensive materials en bloc and thus unduly complicate the logistical problems; to budget for the replacement of material when it is certain that all its potential has been exhausted and it cannot be "revived"; lastly, to make an accurate assessment of the logistical implications (maintenance, repairs and spare parts) and functional aspects (the growing technical complexity of an organiza-



tion is accompanied by the increasing specialization of its parts) (4).

Serious problems are found also in the personnel sector. The Italian Army is, and will continue to be, a mixed army, with the majority of troops on short-term national service, and only a minority on permanent duty. From the standpoint of training a professional army would be preferable. Also the equipment would be exploited more satisfactorily (and the more sophisticated it becomes, the more convenient it would be to have more career personnel). However, this solution cannot be adopted for budgetary reasons, because the personnel requirements would not diminish appreciably, while the cost "per soldier" would increase to at least three to four times that of the national serviceman.

It could also be a problem to find the required number of long-service soldiers. It is a little known fact that, even though up to 16% of the troops can be volunteers by law, very few

(2) The "light infantry" does not consist, as some people imagine, of fighting units with relatively unsophisticated equipment.

In the US Army the term is applied to units whose transport assets have been stripped to a minimum and whose tactical and strategic mobility is ensured by helicopters and aircraft. However, they have roughly the same anti-tank capability at company level as one Italian mechanized battalion.

(3) General Bernard W. Rogers, the Allied Supreme Commander in Europe, has treated the topic on several occasions. See for instance "The Atlantic Alliance: prescriptions for a difficult decade" (Foreign Affairs, Summer 1982).

(4) The last criterion is the one with the greatest effect on the organization of the forces since it helps to modify the "teeth-to-tail" ratio (at the end of World War II the United States were using 6-7 "support" troops for every fighting man, while in Vietnam this ratio was estimated as being of the order of 20:1).



actually do enlist. The reasons for this are not only psychological or economic (although these are important), but also social – all the special recruiting going on at the moment (e.g. Carabinieri, Customs, State Police, Prison Warders, Fire Brigade, Foresters, etc.) has made considerable inroads into the available manpower, which is in much shorter supply than in the other western countries.

The objective of increasing the long-service soldiers must be pursued with all available means, because they could be conveniently used to re-

place some of the national servicemen and NCOs (who could then be used for more important tasks). This could be done not only in the logistical services but also in highly specialized technical and tactical tasks and in section or squad leadership.

The last important issue concerning the quality of the forces is related to the Cadres. Although it may seem a commonplace, an army is all the more efficient, the better and more highly motivated its officers and NCOs. Motivation, which

in time of peace is dependent both on external support (always lukewarm in Italy) and on an awareness of the usefulness and scope of one's work, is a fundamental factors which justifies someone choosing to wear "pips" for the whole of his working life in the service of his country. Although there has been some recent improvement, this is a point which has still not been given sufficient importance. The authorities at all levels are responsible for finding ways and means of getting round or of reducing the objective difficulties that are partly due to the country's social and economic evolution. It is still left to individuals, however, to maintain the awareness of the significance of their role intact by conscientiously and consistently doing their duty.

Technically speaking, another factor to be taken into account is the degree of qualitative imbalance between the various officer ranks, the excessive number of "armchair jobs" and the dysfunctions due to the shortage of officers and NCOs. These are longstanding problems that can only be solved gradually. There are already signs of this happening: recruiting has picked up and

the new law on the status and promotion of NCOs has come into effect. Nevertheless, some years will pass before the benefits begin to be felt.

THE SIZE OF THE FORCES

The other aspect of the problem, i.e. the size of the land forces required by Italy, brings us to a topic that is open to debate, also because the threat may be perceived and configured in different ways, thus enormously increasing its indeterminacy (5).

There are virtually no up-to-date publications dealing with the military situation in the Warsaw Pact countries accessible to the public at large in Italy. Nevertheless, only a totally factitious public opinion would deny that the eastern bloc has continued ever since the last war to implement an energetic programme of increasing its military strength, that it has definitely achieved numerical superiority and that in certain sectors it is technologically the equal of NATO.

The subject cannot be discussed exhaustively for obvious reasons of security. However,



the size of the forces maintained until 1975 (which is known to have been of the order of 36 Brigades) corresponded to a substantiated and rational evaluation. Indeed, only unsurmountable external constraints led to the forced reduction by one third during the last reorganization. This was

(5) A typical example is the scenario proposed in 1978 by General Robert Close in his "Is Europe undefended?". According to him, one improbable although possible eventuality is that the Russians will take two days to cross West Germany and reach the Rhine. (However, the comment made at the time by the German authorities was that for this to come about the Bundeswehr and the West German police force would have to direct the traffic for the invader).

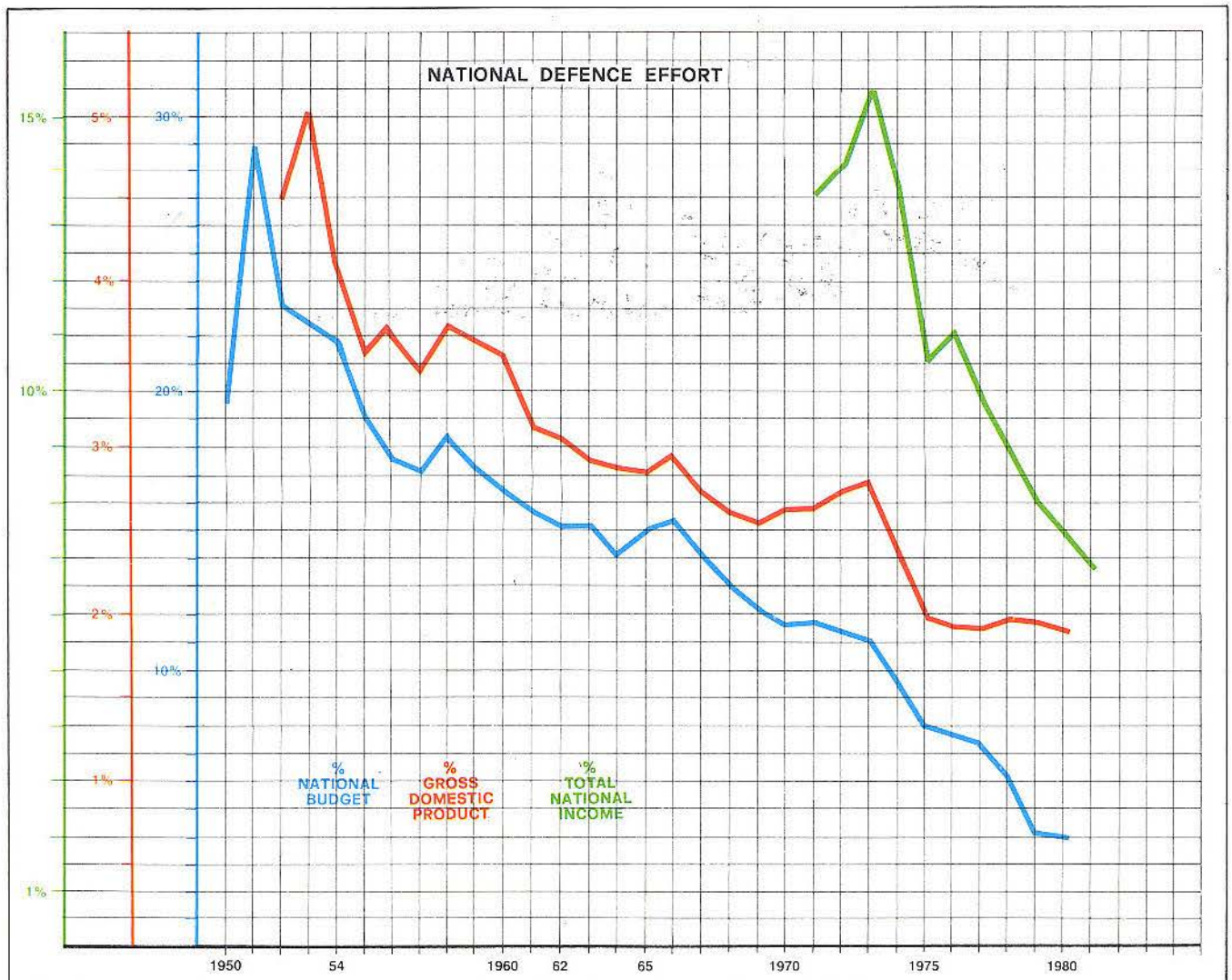
done on the understanding that the remaining 24 Brigades would represent the bare minimum and that the relinquishment of the other forces had to be offset by a definite qualitative improvement.

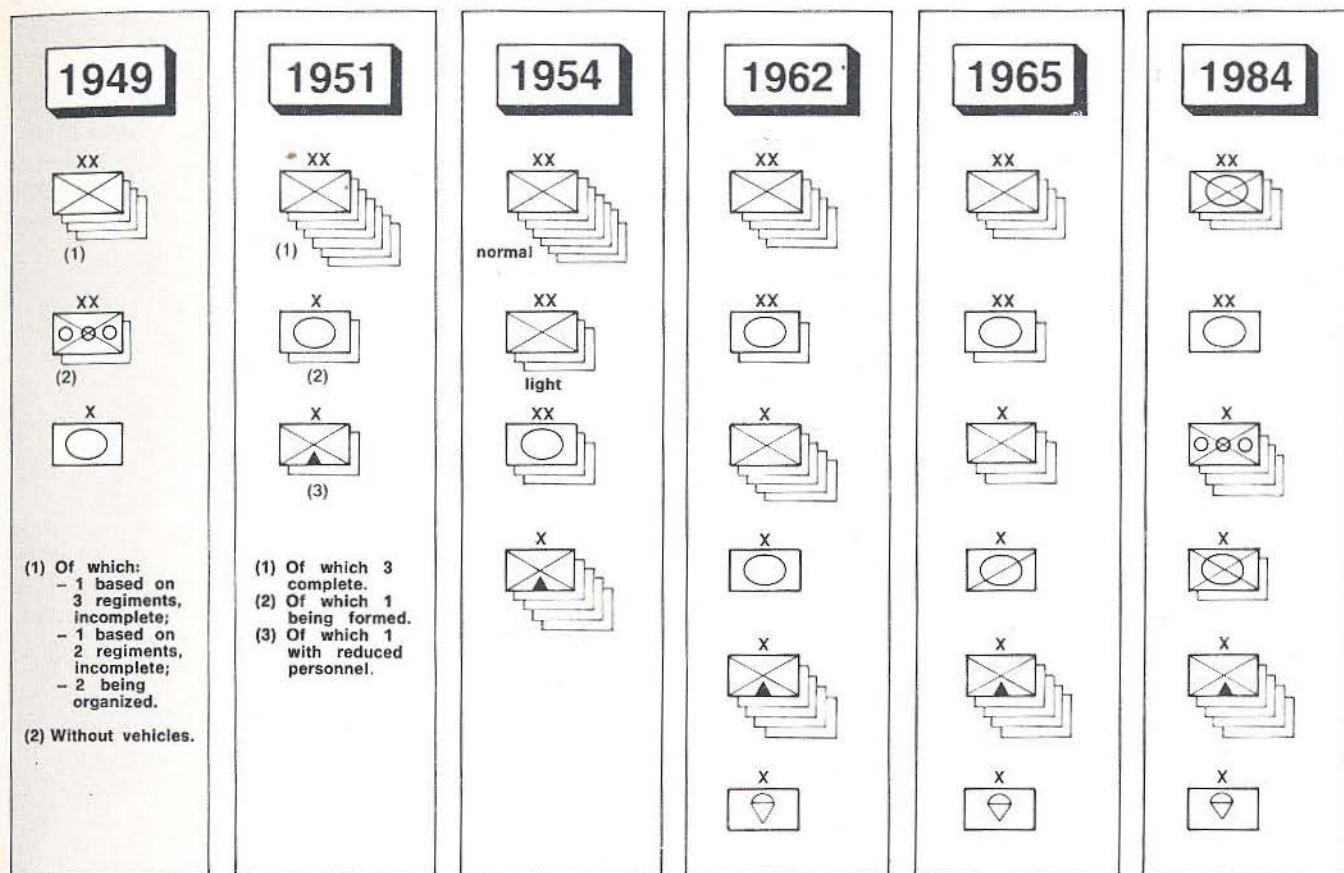
Since then events in the Mediterranean have led to an increase in the potential threat to the Italian peninsula and islands. In future, if the strategic hypotheses already evaluated by other countries of possible attacks against raw material sources of vital importance to a modern state were to take on more concrete form, the significance of the threat could conceivably be considered to have increased. The 24 Brigades must therefore be confirmed and retained. Otherwise, we should simply be lending support to those who maintain that the army is nothing but a liability, but only because it is useless to keep a tool that is unsuited to its purpose.

Some believe that the country's defence could be guaranteed by a smaller force also because the most dangerous and immediate threat from the East is directed towards central Europe. This would be true if we were sure of having to defend ourselves for only a short period

of time against a comparatively weak attack. But no one knows in advance how long the conflict would last. Recent historical experience warns us that it would certainly be longer than desired and that all the countries involved in it would need much greater forces than are normally kept up in time of peace. Assuming that the maximum possible increase occurs in the quality of the weapons, it would perhaps be possible to commit fewer Brigades to the direct defence of the frontier than is provided for in current planning. However, it would also be necessary to build up reserves in order to cope with unfavourable situations (which would be more probable owing to the reduction of the front line forces) and the protracted defensive effort would have to be further sustained.

Considerable doubts are raised also by the proposed more extensive use of mobilization, which is an indispensable means used by the Armed Forces of all countries. However, while useful for maintaining the forces at their minimum necessary quantitative level in time of peace, it can only be fully effective on the assumption that the enemy will be unable to launch a surprise





attack, or else where the political and social context allows a firm hand to be kept on the reins.

Technically speaking, to maintain a larger number of units in their peacetime configuration would afford direct savings in personnel costs and allow a larger proportion of resources to be devoted to the purchase of material. There are, however, several drawbacks:

- increased costs of maintenance and security of the material kept in mothballs for use in times of emergency;
- every substantial innovation in weapons and the most important equipment would require the personnel to be recalled for further training;
- the further training periods would become more important and would have to be coordinated more carefully with the mobilization procedure used for the other components of the national defence;
- it would be no easy task to have to rebuild efficient units of greater than company strength in a hurry, unless it were possible to recall troops for further training, which would be rather difficult under the present circumstances;

(6) This is true also for the central, territorial and training organizations, which have not been taken into consideration because the amount of resources absorbed by them, as well as being relatively insignificant in absolute terms, is also less percentagewise than for the same functions in the main European countries.

- if the enemy managed to gain initial success and exploit it, there may not be enough time to set the whole system in motion.

For a number of reasons, therefore, the present ratio between existing units and skeleton units used to bring the personnel up to strength on mobilization are confirmed as the criteria best suited to present conditions.

In the final analysis, the present order of battle of the Army appears as a still acceptable compromise between functional requirements and availability of resources (6). Unfortunately, for a long time now the latter have been decreasing in real terms. The graph on page 20 comparing national defence spending with the main economic indicators is quite explicit. If this trend were to continue, the point would quickly be reached in which it would no longer be possible to reconcile the size of the forces and their operational readiness. Having to choose between the two, the former would naturally be further reduced. And since the margin of manoeuvre that used to exist in the early "seventies" is no more, the threshold below which the army is no longer able to fulfil its tasks would be exceeded.

The answer to this problem must be found by the government authorities, as it of course cannot be left to the Armed Forces themselves. The task of the military consists solely in perceiving the difficulties, constraints and risks and proposing possible solutions.

QUALITY X QUANTITY = ?

The graph on page 21 sums up the developments in the army since Italy joined the Atlantic Treaty. At the beginning, the Armed Force enjoyed a considerable boost. However, the downward trend beginning in 1956 can be explained by developments in doctrine (i.e. the introduction of tactical nuclear weapons), but also by the need to save money. Then, between 1961 and 1962, six Divisions were cut down to Brigade size. The bottom of this trend was reached in 1965 when the army took on roughly the shape it was to keep for the next decade or so.

Despite the nearly one third reduction vis-à-vis the 1954 strength, arms and equipment and organization had been standardized, thus making up for the lack of homogeneity of the earlier years. Furthermore, an organic reinforcement programme had been got under way. There were plans to mechanize the infantry, to replace the existing tanks, to introduce new field artillery and signals equipment and to fill the gaps in anti-aircraft and antitank defence, in operational mobility and night fighting capability. And improvements actually were introduced, particularly in the infantry, which began to receive its first antitank missiles, the first APCs and to update its tank line. However, as a result of problems linked to the rising cost of living and the crisis which followed the "economic miracle", the targets were only partly reached and then only for certain units.

The full force of the difficulties was felt in the early "seventies". Under increasing pressure to cut costs, the first reduction measures (7) were taken, which were to lead to the drastic 1975 reorganization. This is recent history and need not be repeated here. I shall merely point out that the considerable quantitative reduction was considered acceptable only on condition that the functional shortcomings observed in the "sixties" could be eliminated during the next ten years. Since then many of the programmes laid down have been completed and others, for which the techniques for producing materials measuring up to requirements did not yet exist, have been got under way. The rate of development in several high-tech areas was slower than originally expected mainly because of lack of funds.

Although very interesting, it would take too long to analyse the development of the Army as a function of changes in the threat, in weapons and doctrines, in order to separate their natural development from measures imposed by external constraints. I shall merely point out that the extensive transformations of 1961-1962 and the 1975 reorganization were speeded up by the troop reductions carried out under budgetary pressures.

Precisely because the financial problems still exist, I do not agree with the proposed further cuts in the size of the forces, which would supposedly be offset by the introduction of high-

tech material. This may appear contradictory, since the lack of financial resources is one of the main points on which the supporters of the new reorganization insist. Nevertheless, experience tells us that the only certain result would be the actual cutback in the size of the forces, with the risk of not obtaining any qualitative improvement in exchange. And nothing would stop the same situation recurring several years hence as the cost of materials continued to rise.

Moreover, making a realistic estimate of the financial costs of a qualitative increase that would offset the cutback in strength, the conclusions reached would probably be hard to put into practice despite the formal perfection of the logic on which they were based. For instance, the decision to adopt the "Patriot" would allow the army and the air force to share a number of tasks. However, the cost of the weapon systems of a size adequate for both Armed Forces and the present degree of their integration would in practice preclude this solution, which seems so rational and advantageous in theory.

In actual fact, there is one way of maintaining the forces at their present size and at the same time of finding funds to modernize material by diverting some resources away from the "losing" sector of personnel to that of investments. This would consist in extending the national service call-up period so as to reduce the size of each annual intake. Supposing, for the sake of example, that the army needed 200,000 men to be given basic recruit training for 4 months at a cost of 5 million lire per soldier, the annual cost would be as follows:

Duration of call-up period	8 months	12 months	18 months	24 months
Annual intake	600,000	300,000	171,500	120,000
Cost of training	3000 bill.	1500 bill.	850 bill.	600 bill.

Neglecting all considerations of whether it is economical to keep a soldier in the army for a longer period, it can be seen that in a single year a 6 month increase in the call-up period would allow a saving in resources sufficient to purchase 200 battle tanks or 500-600 armoured fighting vehicles of 1200 antitank weapon systems, all of the advanced type (8).

However, this type of solution would be strongly opposed in this country and does not seem to be feasible either, at least in the short to medium term (even though the matter will

(7) Abolition of 3 Large Unit HQs at Corps level, 14 Regimental HQs, 36 Military Districts and 82 Depcts, plus the "thinning out" of 56 battalions.

(8) The recoupment would be even greater if the costs of incorporation were included (clothing costs would diminish considerably).



probably have to be gone into further in view of the fall-off in population having occurred also in Italy in recent years).

It has already been seen how the situation regarding officer and NCO cadres will remain stationary for several more years. As a result, it will be necessary to make do with what one has in the personnel sector, making up for any shortcomings by means of enhanced technology. A first step in this direction was taken in 1981 when a start was made on revising the establishments on the basis of the functional differences between time of peace and emergency. Furthermore, the approval, hopefully in the near future, of the new national service law, should make a larger number of long-service volunteers available.

If this did not come to pass, action would have to be taken in another direction and the

number of NCOs allowed by law increased. This is because the process of technological innovation will play an increasingly important role in every sector of the Army. Furthermore, even assuming it can be kept within reasonable bounds, this innovation will lead to an increase in the number of needs which can be addressed only in this way.

In the materials sector, everything depends on the amount of funds available, which will not amount to much in any case. The main reference hypothesis is still the one introduced in 1975, which would ensure forces that were balanced and efficient in all sectors. In view of the changes introduced in the meantime under pressure from increasing costs, this hypothesis cannot be fulfilled completely. It will in any case be necessary to complete the current improvement programmes in the fundamental fields of command and con-

trol, survivability on the battlefield, and logistical support, implementing a high low mix, not by weapon systems but by functional sectors. In the other areas an attempt will have to be made to satisfy needs by exploiting existing materials as far as possible and to keep indispensable technological development down to a minimum.

Personnel and material will thus be made to flow into the present structures. Time and experience have shown that the battalion and Brigade are valid operational models, and also suitable for their peacetime tasks. Their only real problem is excessive "red tape", although this could be solved by changes in the procedures, and the attainment of a level of operational efficiency which can be increased by laying increasing emphasis on training.

On the other hand it is both possible and convenient to simplify the command and support organization of the higher than Brigade levels. The Division had a reason for being at the time when the infantry regiments were being transformed into tactical groups by assimilating tactical and logistic sub-units from other units. However, ever since the Brigades were defined as elementary Large Units, and therefore combined arm units and functionally autonomous, the Division's role is no longer completely clear. Even in tactical doctrine it is considered to be half way between an elementary Large Unit and a complex one.

The possibility must thus be explored of modelling the 3rd and 5th Army Corps on the 4th Alpine Army Corps, which has always managed its Brigades directly. The "Mantova", "Folgore" and "Ariete" Divisions should be grouped differently, owing to the impossibility of uniting them under a single HQ because of the practical problems connected with their size and location. The sure saving thus achieved would have no effect on the overall efficiency, because the support units would be sized according to the needs of a single command level. At the same time, the basis could be laid for solving also the structural problems that will have to be dealt with over the next few years in order to eliminate residual functional shortcomings.

CONCLUSIONS

The present Army structure is, on the whole, fairly well suited to its tasks. The only important modification that could and should be made is to streamline the operational chain of command by eliminating the divisional level and reorganizing the support units. In any case, these are the sectors that still remain to be qualitatively aligned with the hypotheses on which the 1975 reorganization was carried out.

Quality and quantity must be reconciled as was recommended at the time, also taking account of the following considerations:

- margins no longer exist for modifying the size of the forces involved. Any further cuts would

inevitably reduce their operational effectiveness, and if they were to drop below the present level of 24 Brigades, they would no longer be capable of ensuring effective and credible defence. There is thus no point in envisaging further cuts compensated by qualitative improvements, which in any case could probably not be achieved to the desired extent;

- allowance must be made for the gradual sophistication of materials so long as it remains within the bounds of normal evolution, corresponds to true functional needs and is not based on unrealistic objectives. Priority in this field must be granted to the sectors of command and control, battlefield survivability (anti-aircraft, antitank and NBC defence) and logistical support. If the budget cannot be stretched to cover the programmes laid down in 1975 for the other components of the Armed Forces, a decision will have to be made as to the most suitable ratio of mechanization for the infantry and the new tank/antitank ratio. However, in any future developments, priority must be given to the fighting troops and everything connected with "support" should be pared to the functional minimum.

The structures must be given a degree of stability in order to avoid abrupt changes like the one imposed by circumstances in 1975. All changes must be introduced as gradually as possible in order to avoid dangerous repercussions, above all in the personnel sector, which is more liable than the others to large-scale structural changes.

Of course everything hinges on the amount of resources earmarked for military defence. It has been some time now since the Army responsibly and realistically adjusted its demands to suit the country's economic situation. Its financial planning is now geared to maintaining the minimum acceptable level of forces with a barely adequate operational efficiency. If the consequent burden on the budget were found to be too great, it would be necessary to reduce the size of the forces in order to avoid a falloff in operational efficiency. At the same time, however, it would be necessary to accept the risks involved in entrusting one's military defence to an undersized army.

Gian Giuseppe Santillo



Col. Gian Giuseppe Santillo graduated from the 15th course of the Military Academy of Modena and has served with the 7th Field Artillery Regiment of the "Cremona" Infantry Division and the Airborne Artillery Battalion of the "Folgore" Airborne Brigade. He attended the 97th General Staff Course, after which he served at the HQ of the "Centauro" Armoured Division and in the Army General Staff. He was CO of the 185th Field Artillery Battalion and currently is CO of the Military District of Milan.

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TEN YEARS OF WAR AND
TEN YEARS OF PEACE
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THIS BEGINNING, HOWEVER MODEST, MARKED NEVERTHELESS THE FIRST STEP TOWARDS MEETING A REQUIREMENT THAT COULD NO LONGER BE DEFERRED: UPDATING THE COUNTRY'S MILITARY APPARATUS. IT IS NOT A SECRET, REALLY, THAT (LIKE IN MANY OTHER NATIONS, INCLUDING GERMANY ITSELF) MANY PERSONALITIES OF THAT TIME WERE SHOWING VERY LITTLE ENTHUSIASM ABOUT THE GENERAL CAPABILITIES OF THE TANK, AND, ABOVE ALL, THEY WERE VERY SKEPTICAL ABOUT ITS REAL USEFULNESS.



Artista

When Gen. Federico Baidrocchi, with his secret Circular no. 7050 of January 30, 1936, ordered the establishment (at the height of the Ethiopian campaign) of a moto-mechanized Brigade (1), it seemed that the problem of constituting a major tank unit had at last been tackled more concretely, even though the unit was much lighter than had been originally proposed by some experts (2).

The appointed Commander was, significantly, Gen. Carlo Favagrossa, who was to be Undersecretary for War Production until September 8, 1943.

The Unit, which had been called "First" as a good omen, seemed to be well balanced in its components and equipped with the best material that Italy possessed at the moment. The armoured material – namely the assault tanks mod. 35, brand-new at the time (though over-rated) – was supported by 75/27 guns mod. 911, rightly considered the most modern field pieces available, especially for their wide firing range (3).

By June 1, 1936, the Brigade could at last be regarded as complete. The Ethiopian war had ended victoriously and preparations for the usual "National Field Exercises - Year XV" were under way.

They took place from August 24 to August 29, and witnessed a remarkable employment of armoured means, for a total of over 260 assault tanks and break tanks.

The area of the exercises was constituted by the Appennine reliefs, which set the natural line of separation and contact between Apulia and Campania. These reliefs are two great parallel barriers, with a North-West and South-West course, broadening in the middle in a series of intermediate tablelands, valleys and hollows, with an average height of 700-1200 metres.

The Brigade was part of the "Red Party", behind the front-line and ready to be thrown through the breach opened in the "Blue" front. For the attackers (who, as regards armoured vehicles, could also avail them-

selves of the IX battalion assault tanks and the IV battalion break tanks) the subject of the manoeuvres was the invasion of Irpinia; for the "Blue Party", instead, it was a withdrawal, followed by counter-offensive; i.e. the practical employment of the procedures apt to neutralize the adversary's initial success.

The tank units of the opposing party were more or less equivalent: the X battalion assault tanks, the V battalion of break tanks and the expected employment of the II Group fast tanks of the 2nd Division "Celere", which was kept in reserve.

In reality, from the numerical viewpoint there was no disproportion (4) and this became evident at the end of the exercises, when the Brigade, which was moving along the Appian Road, followed by an infantry division, was first opposed by "Blue" tank units and then outflanked by the 2nd Division "Celere".

It was therefore a real and true experience of "war of movement", in the initial phase of which fast and motorized units acquired a determinant importance. The recent "Directives for the Employment of Major Units" were thus tested. They stated:

"The tanks – which for our terrain and our war must be very light and fast (5) – must not be considered only as fighting means, operating interspersed and followed by infantry and "Celeri": they must also be viewed as a mass that surprises, breaks through and overtakes with decision. Surprise and mass will be – in tomorrow's war – the major elements for a decisive victory".

The latest "Directives for Division Combat" were also put into practice. The evolution along these lines, already prepared with the "Theory of Celeri" expounded by Gen. Ottavio Zoppi in his book of 1933, was confirmed by Visconti Prasca the following year, in his work "The Decisive War". In this book he expressed, though not too explicitly, a certain confidence in the armoured means, asserting that: "with the system of the 'autonomous battle

nuclei', tanks could prove useful (if the terrain permitted their employment)... their participation could represent and permit that forceful timeliness, that could allow the complete exploitation of the battle's outcome. The action of tanks – he went on – does not represent the sole means... but it is rather an addition of concentrated and more rapid forces to an attack unit which already has in itself the capability of starting and causing a breach".

We find the same concept in the "Directives for Division Combat" of 1936, where it is stated that the tanks' presence is always necessary in battle and particularly during the phase of first contact, in the exploitation of success and in pursuit.

(1) The Brigade consisted of 1 Bersaglieri regiment, 2 assault tank battalions (2 companies each), 1 motorized 75/27 mm. mod. 11 artillery battalion (2 batteries), 1 Engineer platoon (mixed).

(2) Lt. Col. Adolfo Infante, an artillery officer, had written, in June 1934, an article in the "Review of Artillery and Engineers" ("New Trends in the Land War"), insisting on the need to prepare an armoured Brigade with strategic tasks – according to the British model – with 230 tanks; approximately 70 of them – including the "artillery" tanks armed with 75/13 mm. guns – were to be medium tanks.

(3) The war establishment of the Brigade, considering the last changes, included:

- 99 officers, 2518 other ranks, 27 sub-machine-guns, 36 machine-guns, two 47 mm. guns, 6 75 mm. guns;
- 10 cars, 131 trucks, 387 motorcycles, 12 tractors (4 with ammunition waggon);
- 62 mod. 35 assault tanks.

It is evident that this strength cannot be compared with that of the German *Panzer Division* of 1935, which had 1 tank Brigade (4 battalions of 4 companies, 1 motorized hunter battalion, 1 reconnaissance group with armoured cars, one 37 mm. antitank battalion, 1 artillery regiment with 24 105 mm. guns, 1 sapper battalion, services.

As concerns the armoured means, it can be said that our Ansaldo-Fiat mod. 35 was to the Pz.Kpfw. I (M.G.) as now – thirty years later – the Swedish "S" tank is to the "Leopard I".

(4) The British commentators noted this fact, and wrote that for the first time whole armoured Brigades could be seen facing each other, but this was not the case.

(5) This is a theoretical postulate, disproved by facts just a few years later, especially in North Africa; its origin was probably also in the chronic shortage of financial resources.





The exact words are as follows:

"A Division's fighting is particularly influenced by... the numerous fire and attack means (guns, mortars and assault tanks) with which the infantry is equipped in order to increase its power and penetration.

Fast motorized units, motor-transported units, reconnaissance planes operating in close cooperation and under the whip of a brave and brilliant leader, can reach decisive results... especially in the preventive occupation of important positions, and in the exploitation of success and pursuit.

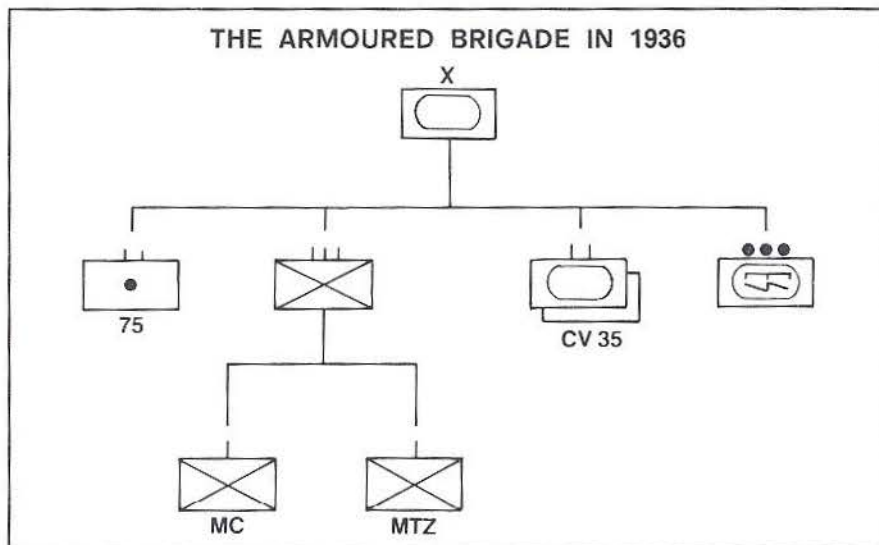
From this stems the necessity of taking into account, when planning and carrying out the attack, the mighty contribution that these means – employed as an autonomous mass and not as a subsidiary element – can give to the manoeuvre. In the counterattack, armoured and assault tanks can find their best employment in these circumstances, because they are in a position to act with the same procedures as in the offensive action".

Nevertheless, when the Brigade was founded, the specific doctrine was limited to the "Directive for the Employment of Tank Units" issued on January 1, 1936, i.e. only 17 days after the unfortunate incident of the Dembeguina Pass, in Eritrea (6). These orientations derived from principles that were by then universally accepted: tanks should be used in attack and counterattack, as mobile weapons and not as elements of static defence (fire centre). The tank was not a substitute for other arms, but had to be employed to integrate their action. What was strongly underlined in these directions (almost an incitement to meditate, so that unlucky incidents like the one mentioned should not happen again) was that the armoured means should never operate without previous reconnaissance with security elements in the van and rear guard, and in co-operation with infantry.

That the army was heading towards a real, if partial, mechanization, was confirmed by two other measures taken in 1936.

First of all, the one providing, on the occasion of the Corps' Centennial, for the motorization of the Bersaglieri regiments (1 battalion of motor-transported cyclists, 1 motor-transported bn. without machine-guns, and 1 motorcycle bn. with 1 motorcycle company and 1 fast tank company). From this,

ing to note that in the post-war period, during the fiduciary administration of Somalia, the 7 battalions established in 1949 adopted a composition – 3 rifle companies, 1 armoured company (tanks and armoured cars) – that was very similar to that provided for in the colonial establishment of 1936. Only the artillery, which then should have included 4 motorized battalions, was reduced to an almost symbolic fraction, (a 100/17 mm towed battery)



one could foresee the proliferation of major moto-mechanized units, and it was certain by then that the Bersaglieri would be their infantry.

The second measure, taken with the establishment, on September 12, of the "Colonial Army of the Empire", provided that, next to a national Division and 17 colonial Brigades, there should be 9 motorized battalions, at disposal of the Regional Governors as a reserve mass. Each battalion should have included 2 rifle companies, 1 armoured car company, 1 fast tank company. However, as far as we know, these motorized units, for which the necessary materials should have been available "in loco" (7), were never born, while the motorization process of the Bersaglieri did not go much further than the regiment that paraded in Rome on May 9, 1937, on the occasion of the first anniversary of the Empire. But, it is interest-

also considering that the Corps' actual employment was essentially for internal security.

THE BIRTH OF THE ARMoured BRIGADES

While the plans to adopt a tank of greater tonnage (which had become indispensable after the Spanish experiences) (8) advanced – rather slowly, as a matter of fact – the General Staff, given the results of the manoeuvres in Irpinia, decided to modify

(6) In an ambush laid by the Abisinians, a company of cavalry fast tanks had suffered very serious losses in men and materials.

(7) In May 1936 there were in Italian East Africa: 223 tanks and 48 armoured cars; exactly 4 years later, the fast tanks (of which there was a large stock in Italy) were only 35, but there were 120 armoured vehicles.

(8) The mod. 35 tanks had had to confront armoured means with a 45 mm. gun in a turning turret.

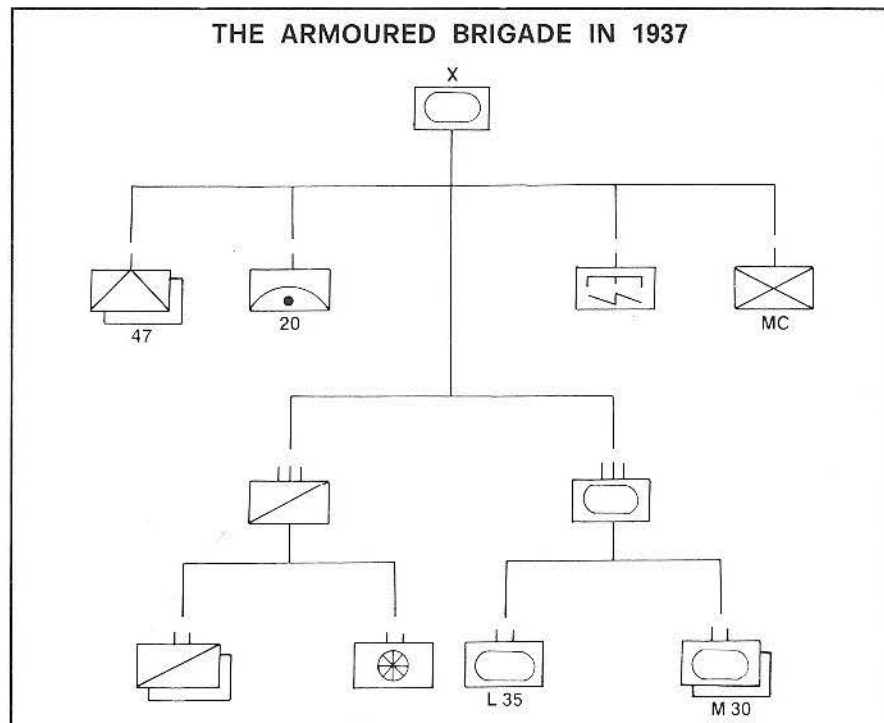
and strengthen the establishment of the moto-mechanized Brigade, thus creating a new type of unit called "Armoured Brigade". The manoeuvres that took place in Sicily in the Summer of 1937 had just the aim of verifying – in the field – the convenience of this transformation, together with the very much discussed infantry Division based on 2 infantry Regiments instead of 3, as in the past. "Anyway (as rightly remarked in the 'Corriere della

units", Valori went on, "It is eminently a battle unit with a great penetration capability but, if left on its own, it would fatally be destroyed. Unlikely to suffer offences from the ground, it should fear those coming from the air: this is the reason for its great quantity of anti-aircraft means. The use of these units requires careful preparation and great discipline in motion: as a consequence, it poses a certain number of problems regarding

ed elements (battalions of break tanks and battalions of assault tanks), with motorized elements (transported Bersaglieri battalions). In addition, there were elements designed for reconnaissance and security (motorcycle company), elements for antitank defence (two 47 mm gun companies) and anti-aircraft (one 20 mm battery), others capable of ensuring the continuity of movement and action (a mixed company of motorized Engineers) and, when required, various artillery and service support units.

This structure, which – incidentally – was very similar to the one adopted by the Tank Group in Spain, had been studied in view of the adoption of the 8T tank (later "M11") which, however, was only employed two years later. And, as a matter of fact, the summary establishment data listed in Publication 3300 (Handbook of Organic-Technical-Logistic Data) of January 3, 1938, provided the Brigade with a force of 86 break tanks (with one machine gun and one cannon each) and 48 assault tanks (with 2 machine guns each); this was not found in any of the lists annexed to the abovementioned Circular no. 44150.

Also, from the study of the "data" mentioned before, it appears that the 68 vehicles of the Bersaglieri regiment are defined "special cars", i.e. "all-terrain" trucks.



Sera' of August 13, 1937 by the military commentator Aldo Valori) the formations are still at the experimental stage, and the manoeuvres in Sicily will serve to test them in the field (9). The Brigade is a unit especially conceived to break a strongly organized enemy line; its action is mainly based on the presence of two battalions of heavy tanks (break tanks). These battalions must enter in the adversary's defensive system like a wedge, opening a breach where all the other units, designed to widen and exploit the success, will rapidly be thrown".

"The armoured Brigade's essential character is that it must act in immediate and very close connection with other support

command, liaison, etc., that it will be interesting to see solved in the field".

The armoured Brigade was born officially with Circular no. 44150 of July 6, 1937, a little over a month before the scheduled manoeuvres. According to it – for the time being – two new units of this type were to be established: the 1st Brigade, through the transformation of the preexisting mechanized Brigade, and the 2nd, brand-new, starting from July 15.

Compared with the formation experimented during the preceding summer, the organization appeared much more complex. In fact, the unit was based on the combination, in almost equal parts, of armour-

THE 1st MANOEUVRE BRIGADE

The "National Manoeuvres - Year XV", which took place from August 13 to August 18, 1937 presupposed the possibility of a landing in western Sicily, with beachheads around Marsala and Mazara. After three days, on the 16th, the "Reds", which had landed with 3 Divisions, plus a fourth one kept in reserve, attacked. On the 17th, they called in the 1st Armoured Brigade (Gen. Quarra) which had landed at Mazara and was assembled at Castelvetro after repelling the "Blue" group that had been detached there.

Passing north of Partanna, it headed left, behind the front of the "Blues", who were putting up a very strong resistance, while the "Peloritana" Division was coming to their help. The action was at its peak when, from Santa Ninfa, the "Blue" Command, in its turn, threw the "Nucleo Celere" against the left flank of the armoured Brigade. At this point the exercise could be considered terminated, and from the conclusions that were drawn at the final meeting it emerged, among other things, that even with those already obsolete means and with largely incomplete formations, possible landings could be repelled (to be true, this evaluation was too optimistic, and disproved by the events that followed).

In the meantime, the new Chief of Staff, Gen. Pariani, confirmed the theory of the "unitary and integral mobile war", perfected by Gen. Baistrocchi.

But the latter had, wisely, stressed many times the need for a strong artillery support and for air support, warning, in so many words, that "without fire one cannot advance".

Nevertheless, even more interesting and well-centered lessons were learnt from the manoeuvres in Sicily. The Army Corps in Palermo, transmitting its "Considerations and Recommendations" regarding the employment of the armoured Brigade on August 17, 1937 - after stating that the unit had operated in reduced numbers (the two 47 mm gun companies had 70 men instead of 180, the Bersaglieri were 550 instead of 800 and the break tanks were only 20 instead of 90), and, moreover, it had to operate in a depth not appropriate for its possibilities, without a suitable artillery preparation, with its flanks exposed and at unfavourable hours - suggested the doubling of the assault tank component and new procedures of employment.

The Brigade, in order to open a breach of 1500 m, would have to operate in bulk and by surprise: the break tanks would be followed by assault tanks and then by infantry; the 47 mm

pieces should be rendered more mobile by tracked tractors, while communications still needed improvements.

On the other hand, the theoretical importance given to reconnaissance with the expression "to surprise and not be surprised" was not supported by facts. The armoured Brigade, which had not been assigned any artillery in order to avoid overweight, lacked a real reconnaissance unit, probably due to lack of modern armoured cars (and perhaps to avoid employing the Ansaldo-Lancias of 1915-18, which were "out of production" and could not be replaced).

Nevertheless the idea that the army needed many Major armoured Units was by then acknowledged at all levels. The expansion of the colonial empire had made the problem worse, and Marshal Graziani, on December 1, 1937, declared that if Ethiopia (of which he was Viceroy) was to be defended autonomously, he should be given no less than three armoured Brigades and six battalions of tanks and armoured cars.

We believe nevertheless that, apart from any other consideration, neither Gen. Baistrocchi nor Gen. Pariani - who replaced him as Under Secretary for War - are to be blamed for the unpreparedness of the Italian Army in this specific sector. Gen. Baistrocchi had, in fact, started a programme of modernization in two phases: 1933-1936 and 1936-1939, only one of which was he able to complete, i.e. the one that was aimed at correcting the most outstanding deficiencies.

Having Gen. Baistrocchi been forced to resign on October 7, 1936, the programme was slowed down for lack of funds and the orders for 160 medium tanks and 48 light tanks were also cancelled. But it should also be mentioned that Gen. Pariani resigned in 1937 because he was refused the 20 billion Lire he considered necessary for the replacement of the old equipment. He agreed to remain in office only after being satisfied that, at least until 1943-1944, Italy would not get involved in

other military adventures. Thus, the second phase could begin only when, in July 1938, he was granted 5 billion Lire, and, given the scanty appropriation and the priority given to the replacement of obsolete artilleries (10), he could assign only 400 million to tanks.

FROM BRIGADE TO ARMoured DIVISION

The results of the employment of the armoured Brigade in Sicily, especially if compared with what was being done abroad, stirred up heated controversies among experts of this very interesting problem.

The first to start the discussion was, in January 1938, Gen. Edoardo Quarra. In his article "On Major Armoured Units", published by the "Rivista di Fanteria" he affirmed that it would be suitable to modify and improve the existing Brigades. Gen. Carlo De Simone followed, on the same review, with a well documented article titled "Is it Expedient to Transform the Armoured Brigade into an Armoured Division?". Gen. De Simone was Commander of the 2nd Brigade and, though he had never carried out large scale manoeuvres, had nevertheless studied carefully the exercises of the 1st Brigade, and promoted studies and evaluations on the employment of such units.

His theses, more comprehensive than Gen. Quarra's, concerned, first of all, the equipment. Starting from the fact that only a part of his tanks were armed with cannons, he stressed the need for more anti-tank weapons and for an increase in tanks from 120 to 210 (almost doubling their number).

But, while the tank problem, given the standing orders, seemed to be heading toward a solution, Gen. De Simone appeared to be more concerned about the

(9) The armoured Brigade belonged to the invading party.

(10) Regarding the events concerning the preparations for WWII, see: Stato Maggiore dell'Esercito - Ufficio Storico: "L'Esercito Italiano alla vigilia della 2ª Guerra Mondiale" - Roma, 1982.

weakness of the rest. He said that it could be useful to transform the Brigade into a Division on condition that the latter could have a greater fire power at its disposal. The Bersaglieri regiment should have acquired another battalion, and be completely carried by "all terrain" protected trucks. As in the *Panzer Division*, it was necessary to have an air flight, but they should be fighter planes. But the artillery remained the crucial problem. Self-propelled guns were lacking and, at this point, rather than equipping the two battalions with obsolete and unsuitable material it was better to stay at Brigade level. Otherwise, the operation would only distort the image of the new formation, "impairing the confidence that – as is the case for any other new means – also in this case is essential for progress".

Another contribution of thought was given by Gen. Paolo Berardi (who was to be Army Chief of Staff after the armistice). He came from the artillery, and in his writing "About the Armoured Brigade, or Division if You Prefer", which appeared in the same Review on May 1938, believed that tanks were more suitable for exploiting success rather than in a break-through action. For this reason, he maintained, the Brigade should have at its disposal, for this phase of the battle, armoured personnel carriers, which, on the other hand, had already been suggested by Gen. De Simone.

Berardi's article, which was not devoid of some polemic tones, received an answer on the same issue of the periodical by Gen. Quarra, who favoured without reservation the transformation of the unit into a division and the independent action of the new formations. That the General Staff was by then oriented towards the mechanization and immediate transformation foreseen by Circular 9000 of the following autumn, could also be inferred by an "Extract and Memorandum about the Armoured Division", dated May 10, 1938.

The statement began with a discussion on Circular 10600 of

July 20, 1937, about the tasks of the armoured Brigade, which – as Gen. Berardi had already pointed out – was deemed more suited for manoeuvre actions rather than for breaking large defensive fronts (which could indeed be excluded, unless the enemy was short of antitank weapons). With these premises, the document proposed a Division consisting of four battalions of "M" (medium) tanks and one of "P" (pesanti=heavy) tanks. These latter had not yet been ordered from the manufacturers. The reconnaissance element would consist of one motorcycle company, one armoured car company and one self-propelled antitank company. Useless to say, both the armoured cars and the self-propelled antitank guns were still in the pre-production stage. In fact, they could be tested only at the end of 1939. The armoured "all-terrain" vehicle, on the other hand, was completed only in 1943.

The infantry would be represented by a Bersaglieri regiment made up of three battalions with one company of machine guns on motorcycles, one antitank company and one anti-aircraft company. Above all, the artillery component, regarding some materials, was anything but sufficient: one regiment, consisting of three motorized battalions, armed with 75/18 mm. mod. 35, 100/17 mm. mod. 14, and 105/28 mm. mod. 13 guns. It is true that it was expected that some still inexistent self-propelled battalions would be added (the studies for these pieces, 75 mm. guns mounted on the hull of a 6 ton tank, will start only in 1939). This sector was completed by three anti-aircraft batteries, (probably 20 mm.).

This Major Unit, of course, was equipped with elements of Engineers, one transportation unit and various divisional services.

Another source (11) reports that the outline of the organization drafted in the autumn of 1938 provided for 2 armoured Divisions (one of which could be divided in two halves) made up by 1 regiment of 4 tank battalions,

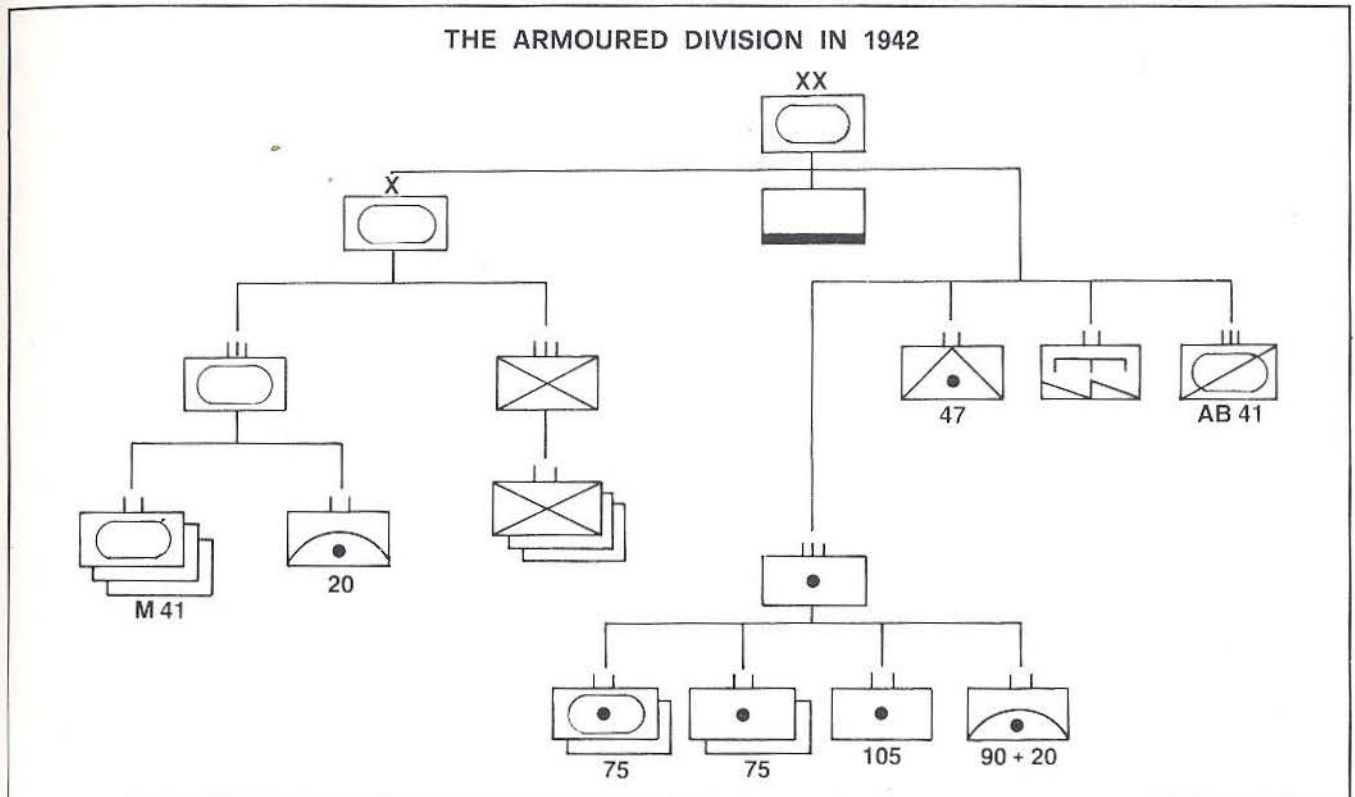
1 Bersaglieri regiment of 3 battalions, 1 artillery regiment of 2 battalions and two 20 mm. batteries, 1 company of Engineers and services (1 Medical section, 1 commissary section, and 1 mixed transportation unit).

The scheme shows that the General Staff was, in any case, ready to establish the Division, equipping it with what was available, as the unknown author of the "memorandum" of 1938 concluded. Indeed, contrary to what was clearly shown in the scheme annexed to the document, he suggested the temporary establishment of 2 Bersaglieri battalions on motorcycles instead of 3 motorized battalions, without taking into account the remarkable difference between the two units, which were hardly interchangeable. There was no mention of the protected vehicles proposed by Gen. De Simone and Gen. Quarra.

The studies on doctrine continued very actively. We have already mentioned Circular 9000 of October 28, 1938 ("The Tactical Doctrine in the Realizations of the Year XVI"), which provided for the adoption of what Liddell Hart called "the indirect approach", which in our case meant a manoeuvre on the flanks. It urged "Commanders and Staffs to adopt a vigorous operative action through movement and manoeuvre, which realizes its effects and emphasizes them". Still in view of a "rapid course war", a handbook was published (Circular 3446 on "The Employment of Tank Units"), based on these new concepts. The important directive, dated December 1, 1938, defined the tank, first of all, as "an auxiliary means for infantry and fast troops and a fundamental element of Major armoured Units" assigning to "motor-cyclists and machine-guns on motorcycles, who followed the tanks, the task to assure the possession of the conquered ground and exploit

(11) Stato Maggiore dell'Esercito - Ufficio Storico: "L'Esercito Italiano tra la 1^a e la 2^a Guerra Mondiale". Roma, 1954.

THE ARMoured DIVISION IN 1942



the action, by pursuing the retreating enemy".

Everything was now ready for the big step and, indeed, the "Pariani Establishment", which provided in fact for two armoured Divisions, was approved within a few days, on December 22, 1938. On February 1, 1939, the 1st Brigade became thus the 132nd "Ariete" Armoured Division and the following April 20, through the transformation of the 1st Brigade, the 131st "Centaurio" Armoured Division was born. Finally, on September 18 of the same year, the 133rd "Littorio" Division came into being (12) (in advance of the definitive Establishment of May 9, 1940, which will provide for three armoured Divisions).

The "Ariete", though still incomplete, had a chance to participate in the important exercises that took place in the North-West of the Peninsula, from August 6 to August 11: the last exercises before the war. The Division's outdated equipment raised some doubts among those who witnessed them; the establishment was subsequently strengthened, but not even in the imminence of the war did

the Unit possess all the medium tanks required by the table of establishment (13).

THE ITALIAN ARMoured DIVISIONS IN THE FIELD

The first employment in war of the new units took place on the Greek-Albanian front and afterwards, in 1941, in North Africa. Their theoretic structure did not undergo substantial changes in the first two years of war, apart, as we shall see later, from the addition of a reconnaissance unit, the renewal of the equipment and the improvement of the artillery and services. Probably they represented the most balanced armoured formations among those of the European armies. In fact, the French armoured Division, although it had 2 battalions of light tanks and two of heavy tanks, had only one infantry battalion and two 105 mm. battalions; more or less similar was the British Armoured Division, which, moreover, had the disadvantage of having only one artillery group. On the contrary, the *Panzer Division*, which had started with one tank Brigade and one infantry Brigade

— which was too much for only two 105 mm battalions — decreased its tanks gradually, down to only one regiment; the *Panzer-grenadier* component was kept at the initial level (1 regiment on protected vehicles and 1 motorized regiment), strengthening at the same time the artillery and Engineers.

(12) It derived its name and part of its personnel from an assault infantry Division.

(13) War establishment of the armoured Division:

- Division Hqs.;
- 1 tank regiment;
- 1 Bersaglieri regiment (3 battalions: 1 motorcycle bn. and 2 motorized bns.);
- one 47/32 mm. company and 1 transportation unit;
- 1 artillery regiment (two 75/27 mm. battalions and two 20 mm. anti-aircraft batteries);
- 1 mixed company of Engineers;
- 1 divisional 47/32 mm. anti-tank company;
- services (1 medical section, 1 commissary section, 1 mixed transportation unit).

Altogether: 273 officers, 484 non-commissioned officers and 6682 troops, 76 submachine guns, 410 machine guns, 16 20 mm. guns, 8 47 mm. guns, 24 75 mm. guns, 184 cannons 37 mm.;

- 581 motor-vehicles, 1170 motorcycles, 48 tractors;
- 184 "M" tanks.

One must stress the presence, in all foreign major units, of a reconnaissance unit and, in the Anglo-American forces, the high mechanization of the Engineers.

It would seem that all the belligerent powers were inspired by the Italian model while, just in 1943, our army changed its course completely. But let us proceed in chronological order and follow the vicissitudes of the establishment in the war years.

The experiences of the first operations in North Africa convinced our General Staff to improve and strengthen the organization of our armoured divisions and to fix once and for all their standards of employment with Circular no. 18000.

In detail, the new war formations established with Circular no. 035000/304 provided for:

- Armoured Division Hqs.;
- Brigade Hqs. (Tank regiment and Bersaglieri regiment);
- 1 tank regiment (3 battalions of "M" tanks, 1 20 mm. antiaircraft company, 1 unit for maintenance and repair;
- Bersaglieri regiment (1 motorcycle company, 2 motorized battalions, 1 support and antiaircraft weapon battalion, 1 transportation unit);
- Divisional antitank battalion (two 47 mm. gun companies, possibly self-propelled);
- 1 artillery regiment for armoured Division [two 75/27 or 34 mm. battalions, one 105/28 mm. battalion, one 20 mm. antiaircraft section, 1 mixed antiaircraft battalion (two 90/53 mm. and two 20 mm. motorized gun batteries) and two 75/18 or 34 mm. self-propelled battalions];
- 1 mixed Engineer battalion (1 sapper company, 1 signal company);
- services.

Of course this involved a remarkable increase in personnel and equipment (14), even greater if one adds the presence, outside the establishment, of a reconnaissance unit or group with armoured cars or "L6" tanks.

In the beginning, a type of "powerful" armoured Division had also been studied, consisting of:

- 1 reconnaissance unit;
- 2 Brigades, each with 1 "M" tank regiment, 1 Bersaglieri regiment and 1 antitank and anti-aircraft battalion;
- 2 artillery regiments, one with two 75/18 mm. self-propelled battalions and two 105/28 mm. battalions, one with two mixed battalions of 90/53 mm. and 20 mm. guns;
- services.

As we shall see, this project will be resumed in 1943.

According to the original wartime programme a fourth Division, namely the 134th "Frecchia", was also envisaged, but never established. The other three, as we said, were widely rearranged: the "Centaurio" and "Littorio" fought in the Balkans and finally joined the "Ariete" in Africa, where they were destroyed, after giving proof of remarkable war capabilities.

THE ARMoured CAVALRY DIVISIONS

The previously mentioned programme of improvements considered in 1942 (according to the establishment approved on the 28th of November of the preceding year), two more armoured Divisions, one of which was to be obtained through the transformation of the 2nd "Celere".

The first measure taken was the "armouring" of the "Lancieri di Vittorio Emanuele II" regiment, which was to have the formation of a tank regiment. With a Circular of April 21, 1942, the 2nd "Celere" assumed the name and establishment of the armoured Division "Emanuele Filiberto Testa di Ferro" (134th instead of 136th, as it should have been). On July 15, also a regiment (the re-established "Lancieri di Montebello") with two armoured battalions, became part of the Major Unit. But, unexpectedly, on July 27, the transformation was given up: the armoured regiment was replaced by the "Nizza" regiment, and the Division became again the 2nd "Celere". The "Littorio", "Montebello", the CXXXIV mixed battalion of Engineers and two heavy mobile

workshops remained at the General Staff's disposal until, on April 1, 1943, together with the re-established regiment "Cavalleggeri di Lucca", they became part of the armoured cavalry Division "Ariete" (135th). The unit came to include:

- Hqs.;
- reconnaissance armoured group "Lancieri di Montebello";
- armoured regiment "Lancieri di Vittorio Emanuele II";
- motorized regiment "Cavalleggeri di Lucca";
- CXXXI battalion 75/34 mm. self-propelled and anti-tank guns;
- 135th armoured artillery regiment (twenty-four 100/22 mm. pieces for the I and II battalion; twelve 149/19 mm. pieces for the III battalion; twelve 90/53 mm. pieces for the IV battalion);
- 235th antitank and self-propelled artillery regiment (twenty-four 75/34 mm. guns for the XX and the XXI battalion and twelve 105/25 mm. self-propelled guns for the DCI);
- CXXXIV-mixed Engineer battalion;
- services (15).

VOLUNTEERS AND LEGIONNAIRES

A last armoured Division had been planned, which had been called "Giovani Fascisti" (136th). It had been decided that it would be obtained through the

(14) With the changes made up to Nov. 11, 1942, it included:

- 457 officers, 657 NCOs, 8773 troops, 64 submachine-guns, 80 machine-guns, 24 antitank rifles, 9 81 mm. mortars, thirty-four 20 mm. guns, sixteen 37 or 47 mm. guns, 32 75 mm. guns, 8 90 mm. guns;
- 644 motorcycles, 1494 motor-vehicles and tractors, 12 trailers, 12 waggons;
- 7 armoured cars, 18 command tanks, 192 "M" tanks, 21 SP 47 mm. guns, and 36 SP 75 mm. guns.

(15) The actual force of the "Ariete II" is not certain: according to one source, it should have had between 7500 and 9000 men, with 50 armoured cars, 40 "M42" tanks, 157 self-propelled guns, 92 heavy machine guns (20 mm.), and 12 SP 47/32 mm. guns, plus 1000 motorcycles and about 2000 vehicles. Another source, also from the "Ufficio Storico dello Stato Maggiore dell'Esercito", reduces the armoured means to only 176.



transformation of the "Bersaglieri d'Africa" Division on October 14, 1942, but the idea was soon abandoned; subsequently it was transformed in an infantry Division on February 24, 1943.

Nevertheless, in the spring of the same year, a new armoured Major Unit was being formed, the "Camicie Nere" Armoured Division (or "M"). It was founded in the area of Chiusi (Siena), on April 23, 1943, with carefully screened personnel, in part veterans of various fronts (particularly the eastern front). Some of the officers were even War College graduates. The weapons were to be presented by the German Waffen-SS and, in fact, by the end of May, German tanks, artillery and automatic weapons arrived, together with 33 SS instructors, plus 35 armour experts from the Royal Italian Army.

By the end of June the core of the unit was ready, and on July 10 a battle group could perform with dignity in a live fire manoeuvre near the Capital. Afterwards, the "M" Division, although incomplete, was put under the direct command of the General Staff of the Army, just four days before the well known political events of the 25th of July. In August, the General Staff, having replaced the Commander (Cons. General Lusana) with Gen. Calvi di Bergolo, former Commander of the "Centauro" Division in Tunisia, gave the Division the name of that unit. Then it started to improve it with every available means, with the intent of establishing again two reliable armoured Major Units. Despite this, on the day of the armistice, September 8, the 136th legionary armoured Division "Centauro" was far from the envisioned formation. Only the "Ariete", though lacking in training, was now complete, but, even to its Commander, Gen. Raffaele Cadorna, it appeared "short in motorized infantry", so that he had asked, in vain, that it be reinforced with a Bersaglieri regiment (16). On the other hand, the components, destined to reconnaissance (recce armoured groups) were very powerful:

those were just the ones that had been so much lacking in North Africa, while the artillery equipment was particularly abundant (the serious inadequacies of 1938 had at last been redressed).

The standards of employment were still those listed in Circular no. 18000. It outlined the main trends concerning the armoured Division: nothing to object about its doctrinal contents, which clearly reflected both the German experiences and those made during the African operations (there was a whole chapter devoted to the employment of tank units in the desert) with the right emphasis on the cooperation of these units with the other special branches of the Army.

THE RECONSTRUCTION

The tragic period 1943-1945, with the forced disbandment of the best units of the Army and particularly of the two surviving armoured units, prevented, both in the north and in the south, the participation of Italian armoured Major Units in the operations that took place in our Peninsula until May 1945. In fact, the attempt to reestablish, with the press communiqué of October 4, 1943, the "1st Armoured Division 'M'" failed, and the following December 31 was officially abandoned. The Germans, on their part, did not keep the promise (made on October 16, 1943 on the protocol) to arm and train at Wunsdorf an Italian armoured Division, which was to be ready at the end of 1944.

On the Anglo-American side, the attitude on the matter was equally negative and no tank contingent could take part in the war of liberation. With this regard, it must be pointed out that the company of flame-thrower tanks "L35" could not join the 1st Motorized Group, of which it was to become part, and that the 32nd regiment, the only tank unit which had survived, being stationed in Sardinia, was disbanded on October 2, 1944.

Anyway, despite the contingent difficulties, in 1946 the Italian Army was already engaged in the reconstruction of the ar-

moured arm, with the institution – on the 1st of July of the same year – of the Armoured-car School of Tor di Quinto (Rome), which later (July 1948) became the Armoured Cavalry School, and collected the equipment that the Allies were leaving behind in Italy – often "demilitarizing" them by cutting away the guns – in special yards for armoured vehicles.

With the Tank School, opened on October 1, 1947 at the Forte Tiburtino, in Rome, the training organization was completed, while the training of personnel destined to the future armoured units proceeded at the other Schools (Artillery and Engineer).

With the ratification of the Peace Treaty of 1948, with which it accepted to reduce to 200 the number of medium and heavy tanks that could equip the renewed army, Italy started the formation of a few armoured units, appropriately dividing the small fraction of permitted means.

Having discarded "a priori" the solution of re-establishing an armoured Division based on the formations of 1942 – of course with more modern equipment – classified according to the actual tonnage of 1948 ("L" tanks up to 14 tons, "M" tanks up to 32 tons, and "P" tanks, approximately 52 tons), and owing to the fact that there were no limitations on light tanks, armoured cars and self-propelled guns, it was preferred, mainly for budgetary reasons, to turn to a different organization: a certain number of armoured Brigades. The 1947 plan – which certainly took into account a proposal made by Maj. Gifuni, an artillery officer who, just in that period, had scrutinized the problem in a long article appeared in the "Military Review" ("Organization of the Armoured Troops in the New Italian Army") – provided in fact for three Divisions, two of which were to inherit the name and traditions of the "Ariete" and "Centauro".

Meanwhile it was necessary to count on the actual immediate

assets, which were M4 "Sherman" tanks, left from the war. This was due to the fact that "Ansaldo-Fossati" – which, until December 1944 had produced the "P40" tanks, the performance of which was more or less that of the American "M 24" – has been closed in 1946. Therefore, the Army General Staff, with Circular 2510 Ord. (UR/40/P/2) of September 30, 1948, temporarily established the following organization:

- Hqs. company, 2 tank companies (1 Hq platoon and 2 tank platoons each) and 1 transportation company, for a total of 27 officers and 367 other ranks (altogether 394 men);
- 24 tanks, 8 armoured vehicles of various types, 12 tractors, 12 trailers, 5 light tracked vehicles, 44 vehicles and 17 motorcycles.

This could permit, employing the "Sherman" as the only medium tank, the formation of 3 regiments of two battalions each, enough for the three Brigades proposed by Maj. Gifuni.

The participation in the Atlantic Treaty (NATO) ratified on August 24, 1949 – a few days after the armoured Brigade "Ariete" had been completed and presented to the Minister of Defence at Piana della Comina, near Pordenone, on July 25 – sped up the programme and allowed the availability of more equipment.

According to the Circular dated December 1, 1948 (Prot.

no. 350) no. 2930/Ord./I., the new Brigade would have had the following tasks:

- offensive action against weakly organized enemy;
- preventive occupation of important locations;
- exploitation of success;
- counterattack (reserve to be kept united);
- protection of withdrawal.

The establishment was similar to the pre-war one:

- Brigade Hqs. and Hqs. company;
- 8th Bersaglieri regiment;
- 132th tank regiment;
- 132th armoured artillery regiment;
- "Guide" armoured cavalry troop (9 light tanks, 9 "Greyhound" armoured cars, 5 "Scout" cars);
- Engineers company (3 Engineers platoons, 1 bridge-laying platoon);
- signal company (platoon until 1950);
- transport unit (9 motorcycles and 68 other vehicles);
- mobile stocks, mobile workshop, Carabinieri unit, services.

But, as we said, with the joining of NATO a greater number of tanks became available and, with Circular SME Ord. no. 2850/Ord./I (UR/40/P/3), dated December 1, 1949, the tank battalion took on an establishment more adequate to the requirements:

- Hqs. company (Commander, Officers of the Hqs.);
- 3 tank companies (1 Hqs. platoon and 3 tank platoons each);
- transport company, for a total of 530 men (35 officers and 495 other ranks). The following types of "Sherman" M4 tanks were in service:
- Command tanks: 1;
- tanks with 17 lbs. gun (1 per platoon: 3; 3 per company: 9);
- tanks with 105 mm. gun (Hqs. plus 2 in the Hqs. company): 11; company: 2; company Hqs. platoons: 2); 8;
- tanks with 75/37 mm. gun (Hqs. company: 1; tank platoons: 2): 22.

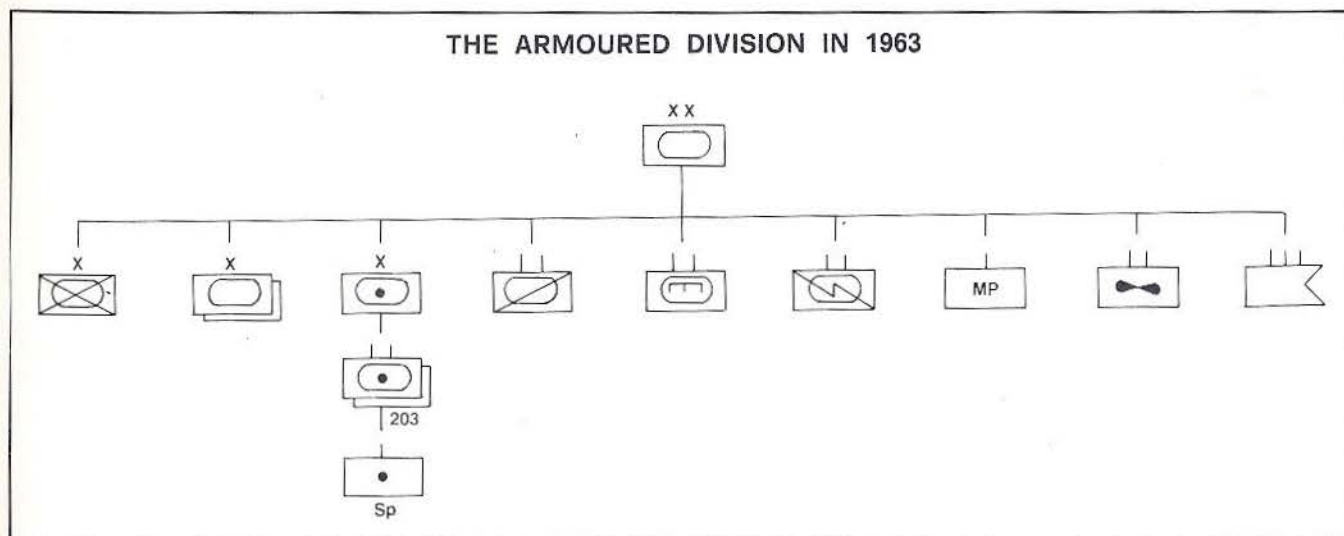
Furthermore, the Hqs. company had 5 reconnaissance armoured vehicles and 3 Scout Cars.

Altogether, the new battalion had 42 tanks, 8 armoured vehicles, 22 motorcycles, 54 vehicles, 6 light tracked vehicles, 15 Diamond-Rogers tractors and trailers.

The prompt supply of "M4" tanks, therefore, allowed, in the financial year 1951-52, the completion of the second armoured

(16) It is hard to explain the reason why the reconnaissance units, destined to reconnaissance and contact actions (the cavalry's traditional tasks) should have been formed also by Bersaglieri, who were to be employed, instead, as armoured infantry. The Bersaglieri were definitively assigned this rôle, as suggested by Maj. Gifuni in 1947, only after the war.

THE ARMOURED DIVISION IN 1963



Brigade "Centauro", whose re-establishment had been ordered by the Army General Staff on April 15, 1951. The Brigade could be paraded on the National Holiday of June 2, along the Via dei Fori Imperiali, the following year.

The establishment was more or less the same and included:

- Brigade Hqs.;
- Armoured cavalry troop "Lodi";
- 3rd Bersaglieri regiment (2 battalions);
- 31st tank regiment (2 battalions);
- 131st armoured artillery regiment (two self-propelled 105 mm. battalions, 1 antitank self-propelled 76/50 mm. battalion and 1 motorized antiaircraft 40/56 mm. battalion);
- Engineer company;
- Signal company;
- mobile stocks, mobile workshop, medical section, commissary section (17).

As we mentioned before, in 1948, considering the performance of the new means ("new" is a euphemism for in reality their planning and production dated back to the period 1942-1944), after the study of the results obtained in training under the unvaried dispositions of Circular 18000, and keeping in mind the war experiences, the "Ariete" Brigade had been able to work out the general standards of employment and the procedures for each element of the Major Unit, thus giving a valuable contribution to the drawing up of the new tactical regulations which were being prepared by the Army General Staff.

The norms conformed to Circ. 2600 of 1950 "Outlines of Employment of the Infantry Division"), which assigned to the Major Armoured Units the task to exploit success, after the infantry Division had opened a breach in the enemy lines.

Meanwhile, the denunciation of the military clauses of the Peace Treaty and the subsequent arrival from the U.S. of as many as 800 "M 26" medium tanks and "modern" "M 47s" allowed the Army to start the

transformation of the Brigades into Divisions – just as had been done some ten years earlier – increasing from 2 to 3 the number of the tank and Bersaglieri battalions and that of the self-propelled artillery battalions of the 3 regiments. This transformation, begun towards the end of 1952, constituted an actual strengthening of the Major Units. A document (Historical Memoirs) shows that the "Ariete" at that date possessed the following:

- 78 light tracked vehicles, 73 "Half-Tracks", 29 Scout Cars, 9 "M 8" armoured cars;
- 1 protected truck;
- 9 "M 24" tanks, 15 "Stuart" tanks, 144 "M 4" tanks, 16 command tanks, 20 special tanks, 6 demilitarized tanks, 156 "M 47" tanks;
- 76 self-propelled 105 mm. and 90 mm. guns; 12 self-propelled 76/50 mm. guns and 1 tracked motor-crane.

The replacement of the M 4 "Sherman" was already completed in November 1952, while the 3rd self-propelled 105/22 mm. battalion (two batteries) was formed as part of the 132nd artillery regiment.

SOME CONCLUSIVE CONSIDERATIONS

As it seems demonstrated, after the uncertainties and delays of the early thirties, the Italian Army, choosing the doctrine of the "rapid course war" (18), in 1938 was oriented towards mechanization and, theoretically, had placed itself on the most advanced positions.

The creation of land forces, which were second to none, was nevertheless hindered by the persisting deficiencies in training and equipment.

Let us point out that there had been the intention to transform two of the three "Celeri" into armoured Divisions and that the planned goals were not reached mainly because of the scarcity of the available resources. Other drawbacks and problems sprang from the choice – not always an easy one – of the cadres for the new units, whose personnel, besides being enthu-

siastic and motivated, had to possess the necessary technical knowledge. And yet, every unit had been requested to report all officers with previous tank experience or those who were thought suitable to be assigned to such units.

Having examined all that was being done abroad, it was a common belief that our armoured Division, although less heavy than the others, was capable of carrying out successfully its assigned tasks. It was also acknowledged that – still from the theoretical point of view – the next war would be fought also on terrains other than the Alpine frontiers (19). Even the Germans had to admit that their doctrine was similar to the Italian one, at least in the theoretical general lines, if not in the executive details. But the means, above all, remained qualitatively and quantitatively inferior when compared to the needs.

In the post-war period, instead, the various assumptions deriving from the even more changeable policy-military situation induced the Army to go back to the three armoured Divisions of 1940. Only after some time could it be ascertained that it was too ambitious to stay at those levels, even though there was no need to worry about the equipment, for, in the framework of the U.S. military aid, there were the 250 tanks, the 100 self-propelled guns and the 450 armoured vehicles needed by each Major Unit.

Lt. Col. Ferruccio Botti
Dr. Nicola Pignato

(17) In 1951, the Brigade had the following armoured means:

- 131 light tracked vehicles, 66 Half Tracks, 66 Scout Cars, 9 "Greyhound" armoured cars;
- 10 "Stuart" tanks, 9 "M 24" tanks, 58 "M 4" tanks with 75/37 mm. guns; 26 with 76/55 mm. guns and 16 with 105/22 mm. guns, 77 SP guns and 31 special tanks.

(18) "That is to say, a war that demands the destruction of the enemy forces in the shortest possible time: convergence of efforts and rapidity of conduct" (Gen. Pariani).

(19) "The variety of the terrain on which we may be called to operate and the very different forms of combat in which we can find ourselves fighting" (Gen. Pariani).

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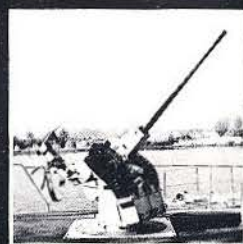


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THE "SUSA," ALPINE BATTALION



THE ITALIAN CONTINGENT TO THE NATO MOBILE FORCE

Ever since 1963 Italy has made a substantial contribution to the NATO Mobile Force AMF(L) in the form of the "Susa" Alpine Battalion, the 40th mountain artillery battery, the 101st air-transportable field hospital and various other sub-units of the "Taurinense" Alpine

Brigade, to which all the above units belong. The statutory task of the AMF(L) is to allow rapid intervention in contingency areas in the Allied Countries in which it is necessary to demonstrate the solidarity of NATO members vis-à-vis a threat of aggression by the Warsaw Pact.

The deterrent function of this intervention is the principal

military and political aim of the AMF(L) itself.

The premises on which the efficiency and readiness of these forces are based consist of their constant readiness, the possibility of transporting them rapidly to the crisis area and their perfect training, all of which are coordinated by careful planning.

ITALIAN CONTRIBUTION

The "Susa" battalion, the 40th battery, one TOW antitank platoon, one pioneer platoon, one signals platoon and a helicopter squadron are employed as an air-transportable "light infantry" tactical group. A similar organization has been adopted by all the other countries that, like Italy, must contribute to the AMF(L), i.e. Belgium, Canada, West Germany, the UK, Luxembourg and the USA.

In addition to the "Taurinense" units, the AMF(L) enjoys also transport support from the 46th Airlift Brigade of the Italian Air Force (which, with its "C-130" and G-222, flies missions for the units when they deploy in their zone of operations) and a "flight" of reconnaissance fighters.

In order to maintain the degree of efficiency required by these activities, the Italian contingent receives thorough training, which is followed with a watchful eye by central military authorities.

This extra attention does not amount to much – a few extra officers or language courses run by the Army School of Foreign Languages inside the "Taurinense" Brigade. However, it also means being issued with equipment suitable for the probable operation areas, which is replaced or supplemented at regular intervals. Then there is the additional attraction of often being chosen to try out new equipment.

The contingent is kept under the watchful eye of a special group of personnel operating through the OP section of the "Taurinense" Brigade HQ.

This group maintains contact with the AMF(L) HQ in Heidelberg, Germany, and takes part in all the planning and study meetings which are held at frequent intervals in various parts of Europe.

This rather hectic activity is vetted by the COs of all the major components of the contingent and takes the form of planning meetings, study periods spent in the contingency areas, which range from Cape North to Anatolia, of reconnaissance, refresher courses and briefing sessions, and above all of continual exercises in the respective contingency areas.

EXERCISES WITH TROOPS

The most exacting of all the activities of the contingent units is obviously the annual field exercise.

This is an extremely interesting activity from the professional point of view and provides a rare peacetime occasion for testing all tactical and organizational aspects of movement, deployment and occupying positions, tactics, and the handling of men, materials, equipment and vehicles under highly realistic conditions.

The "Susa" air-transportable tactical group goes on these exercises in Denmark one year and in Norway the next. Although the exercises are basically similar, the one in Norway is more stimulating, partly because of the difficulties of the terrain, and partly because it allows the Alpini to operate in the conditions for which they have been trained.

The exercise itself is divided into the following stages:

- preparation;
- deployment;
- deterrent stage;
- combat stage;
- return.

Preparation

The preparation stage is extremely important for a unit in which 60-70% of the officers, 10-20% of the NCOs and often 100% of the other ranks are new to the game; furthermore, 30-40% of the latter have been in uniform for not more than three months.

Training, which is generally centered around the specific task of the "Susa" battalion, is gradually stepped up, leave is curtailed, night-time and continuous training extended and the linkup with antitank and pioneer units enhanced.

This specific training programme calls for:

- an initial period of training refinement which is more or less the same for everyone, irrespective of their specialization;
- a period of further training at squad and platoon level, with special emphasis on night fighting and the continuous battle;
- lectures and demonstration sessions held by officers from battalion HQ, as well as by company and battery commanders, on the development of the exercise as a whole, standard procedures, field umpiring, conditions of pay, legal responsibility, etc., behaviour while travelling and during the stay in the host country;

- for Norway, suitable ski and survivability training periods under Arctic conditions, while in Denmark the accent is placed on the principles of mechanized infantry fighting.

This training cycle is carried out mostly away from the base and is concluded by a field exercise with opposing forces selected from within the tactical group.

Also to be planned during the preparation stage is the transportation of about 900 men and more than 150 vehicles of the tactical group from their base to the deployment zone. This transport involves movement:

- partly by rail, partly by motor convoy from the bases to the airport of departure;
- of non air-transportable vehicles from the bases to the port of embarkation or loading station;
- of all personnel by air from the departure airport;
- of vehicles by sea or rail.

Each of the above operations necessitates a vast amount of national, international and NATO documentation being drafted, which consists mainly of:

- movement plans for ordinary and rail routes;
- embarkation and flight plans based on the load configurations supplied by the Air Force;
- permits to transport arms through the transit countries.

Since it takes 5-6 days to air-lift the personnel, in order to ensure that this stage is carried out correctly it is important to divide the units up into suitably-sized echelons, whose arrival in the deployment zone must take place in accordance with the activity programmes previously agreed upon with AMF(L) HQ, and above all taking into account the date of arrival of the vehicles and equipment arriving by rail or sea.

The preparation stage taxes to the full the capacity of the logistical apparatus of the units responsible for carrying out specific checks and other operations in the various service sectors.

The medical service must carry out a special examination (very thorough and requiring frequent specialist check-ups in military hospitals) in order to ascertain that all the personnel is perfectly physically fit. Medical officers then give specific instructions, particularly prior to the Norway exercises, on how to prevent frostbite and on the subject of food.

During the preparation stage standard rations are supplemented by alternative ones better suited to the climate and the particular tasks to be performed, and also to vary the daily menu.

Ordinary non perishable food supplies are also prepared, together with reserve supplies.

Normal perishable rations are supplied by the British AMF(L) service battalion, which sees to their delivery to the exercise area on the basis of requests forwarded several months in advance.

Attention is then turned to all the problems related to the Arctic climate, particularly in Norway, in which the kitchen units will have to operate. A check is also made that the water tanks are equipped with heating devices. These are necessary not only to prevent the water freezing but also to provide the soldiers with hot water for ablutions during rest periods.

Some of the most important prerequisites are those referring to motor vehicles. They entail complete vehicle overhaul (reliability check) as well as special operations, particularly in the case of manoeuvres in Norway. These operations consist mainly of an oil change (this is actually done at the time of embarkation), mounting studded snow tyres, checking that each vehicle is equipped with snow chains (normal and studded) and that there is antifreeze in the radiators and using washable white paint enhance the vehicles' camouflage.

Each vehicle must also have a complete set of camouflage equipment, including fra-

mes, nets and non-reflecting tarpaulins.

Each vehicle must also be checked to make sure that it is entirely suitable for its proposed operational task:

- the Command Post vehicles of the tactical group and company, together with the HQ truck (ACL), which has been specially developed for its purpose by the "Susa" battalion, are equipped with blackout curtains, internal lighting, tables for the exercise documents, etc. All vehicle radio equipment is inspected and overhauled;
- squad motor vehicles are equipped with general-purpose material such as entrenching and other tools for use on the battlefield, water containers, squad gas stoves.

NBC weapons and materials are checked and the procedures got under way for drawing live ammunition (required for the artillery and mortar field firing exercises carried out during the early stages of the exercise) as well as blank ammunition and pyrotechnics.

The earthmoving equipment of the pioneer platoon must be checked, together with the snow-ploughs and all the simulation charges to be used for the field-exercise demolitions.

Also the logistic arrangements are, albeit partially, verified during the preliminary training activity in order to ensure that all units are capable of satisfying the support needs of the tactical group during operations.

Deployment

Deployment is a delicate stage because it involves a number of activities, some of which are carried out before leaving home, and the others in the contingency area.

This stage covers the departure from the base and arrival in the exercise zone in accordance to plan, the bivouacking of the tactical group in the exercise zone, the beginning of command activities under direct AMF(L) HQ control, a check to ensure that logistics



STUDE



is functioning properly through the new supply chain set up by the national support nucleus and the AMF(L) logistics battalion.

These general activities are accompanied by the performance of a number of operational and social tasks planned at the time of the reconnaissance carried out some two months earlier.

These tasks consist of training activities involving:

- combined infantry-armour exercises with units of the host country's army;
- field firing exercise by the artillery batteries and mortar sections; this activity amounts to an exercise within the exercise and is designed to check the firing procedures used by the 8-10 fire units of different nationalities under centralized FAO (Force Artillery Officer) control;
- helicopter mounting and dismounting exercises using FHU (Force Helicopter Unit) aircraft;
- aircraft recognition and guidance by the FAC (Forward Air Controller) of the tactical group;
- preparation of procedures for signals and NBC defence for officers of both branches;
- checking of exercise medical procedures.

The social activities are very demanding as they involve the contingent both as a member of the AMF(L) and from the standpoint of national prestige.

Great care must be devoted to one's image. Radio and TV journalists and reporters from all over Europe and North America are there to critically scrutinize this atypical Large Unit, which they often praise, but never gratuitously.

Contact with the local population can take the form of presentation in schools of all kinds and levels, sports fixtures, frequent meetings with veterans associations, exhibitions of military materials and band concerts.

This important aspect of the contingent's activity is coordinated by the PIO (Public Information Officer), who also maintains relations with APIC (Allied

Press Information Center) organized for the duration of the exercise by AMF(L) HQ.

Deterrent stage

While deployment and the training and various social activities are being carried out, the tactical group's HQ and the key company begin the operational stage known as deterrence.

The exercise scenario assumes that the AMF(L) is in the contingency area as a result of a situation of tension between NATO and the Warsaw Pact. So as soon as they are deployed the units must "show the flag" in order to implement art. 4 of the Treaty, which considers any aggression against one of the member states as an aggression against all the others.

Patrol composed of members from the various contingents cover the territory in question "with their flags unfurled". At the same time close contact is set up between the civilian and military authorities concerned with the defence of the territory.

Subsequently, according to the plans of the exercise command, the tension is stepped up and the first incidents are created by saboteurs, subversives and special forces.

The situation thus gradually precipitates into open conflict leading up to the combat stage of the exercise.

Combat stage

During the "Amber Express 81" exercise held in Denmark, the Italian ambassador visiting the camp of the Italian contingent must have noticed the sudden movement that occurred about 21.30 hrs.

The order to move the entire tactical group towards a zone some 70 Km away and to take up a defensive position had arrived 24 hrs earlier than expected.

Departure time was midnight.

Standard procedures lay down that each unit must take

up its battle position at full strength in the column.

Movement takes place under radio silence until the assembly area is reached. Here the reconnaissance groups immediately begin their work and the platoons subsequently move up to occupy the positions assigned to them.

Dig or die is an extremely apt motto for the AMF(L) light infantry. It is reminiscent of the Italian "more sweat, less bloodshed" and is put into practice every time there is a change of position in the soft and often muddy Danish terrain or in the Arctic snows of Norway. A quick estimate made at the end of the last exercise shows that our Alpini, in their various positions, dug no fewer than 1,800 shelters and weapon pits, all of which were duly filled in again at the end of the exercise.

The now well tested exercise takes place in the following stages:

- occupation of a sector and its defence against attack by mechanized forces;
- withdrawal to other positions and their defence;
- blocking the enemy attack;
- counterattack, which normally marks the end of the exercise.

In this way both HQs and units are given the opportunity of reacting correctly to all the more significant operational situations.

As an offshoot of these main exercise stages there are also minor episodes designed to test all the important aspects of the units' operational efficiency.

Special teams from exercise HQ check out the field organization of each unit, including their equipment, weapons and individual and unit training. This check also takes in camouflage and concealment, alarm procedures used in the case of air attack or NBC warfare, close defence, anti-aircraft defence, the way supply vehicles are used and logistics procedures. The checks carried out on the efficiency of the medical units are particularly important. On the basis of hypothetical loss esti-



mates, these units are literally overwhelmed with wounded that must be treated and evacuated properly.

Also the response to "C" attacks is carefully evaluated, including the signalling of the attack and the subsequent steps to cordon off the area, evacuate the wounded and maintain the residual operational capacity of the units involved.

Airmobile operations are of the utmost importance in view of the large number of helicopters available to the AMF(L). These operations are carried out repeatedly, up to reinforced company strength, under all the tactical conditions possibly requiring the rapid occupation of positions, quick penetration in depth or even the deployment of reserve units in new positions. This provides an excellent opportunity for the verification and practical application of all the mission's organizational and executive procedures, which have to be set up between the tactical group HQ, AMF(L) HQ and the MAOT (Mobile Air Operations Team) having the task of liaison between ground troops and helicopter units.

Another interesting operational aspect is the relief of units in position, which is almost always carried out at the tactical group level within the general framework of the exercise.

After a short warning and preliminary contact between the HQs involved, the executive phase is implemented. This (night time) phase involves the selection of loading-unloading areas, approach and exit routes to and from the positions and the setting up of checkpoints. This is all done at night and involves units speaking different languages under "minimized" radio conditions from defensive positions in contact with the enemy and is therefore a good test of organizational capacity and of the degree of discipline with which orders are carried out.

A few words must also be said in praise of the field umpires.

Their work is invaluable in

determining the success of the exercise. In view of the fact that the opposing units are of different nationalities, it is easy to imagine the highly competitive spirit with which they face each other.

The umpires' arbitration is thus essential to an objective evaluation of a rapidly changing tactical situation, and they must do all they can not to slow it down or unduly interfere in its natural course. However, it is also important to avoid direct contact between units, which must be halted before frayed nerves and weariness lead them to lose their self-control when they are face to face or to forget the fact that they are allies.

Their work consequently requires great self-control, dedication and excellent organization. Their work (and every unit up to company level has its own umpire) has to be carried out under a very wide range of tactical situations, ranging from those involving whole companies down to the level of night patrols.

Considering that the actual fighting lasts 6-7 days, the men are understandably quite exhausted in the end!

The combat stage is therefore a valid testing bench for a unit, either as an expression of an organization and as a group of individuals.

The fact of passing the test with flying colours for a contingent like the Italian one, which is composed of troops that not only have had no specific experience and are indeed practically new to military life in general, compared with expert professional soldiers with 6-7 years' experience, is a matter of great satisfaction for all concerned and obvious proof that motivated training pays off.

CONCLUSIONS

All that remains to be added are a few general considerations on the "spinoff" from the presence of the Italian contingent in the AMF(L) in terms of acquired experience and military prestige.

From the standpoint of acquired experience it is confirmed that the training and logistical system on which our units are based is sound, although there is some room for improvement in certain details required in a unit that responds perfectly to all battlefield requirements: e.g. extra individual training aids, better organization of the Command Posts and signals, updated documents to disseminate knowledge of the operational procedures, field exercises reflecting highly realistic and non-stereotyped operational situations, enhanced camouflage and concealment capabilities and night vision.

These aspects and issues are worthy of our interest and attention, since they are all related to those that, as specified in circular n. 4484, "contribute extensively to the army's credibility and hence to its consideration and prestige in the eyes of the country"; and, we might add in the case of the "Susa" tactical group, of its allies.

In conclusion, this experience can be said to be valid from various standpoints. In the "Susa" tactical group our Army can be considered to possess an efficient, militarily effective asset which is ideal for image-building and constitutes a source of invaluable experience that can be applied to constantly improving the quality of the army as a whole.

Carlo Cabigiosu



Col. Carlo Cabigiosu attended the Military Academy and the Service Branch School. He graduated as a military ski and mountaineering instructor from the Alpine Military School. While serving as platoon leader and company commander with the "Trento" Alpine Battalion, he took an active part in the anti-terrorist campaign in progress in Alto Adige at the time. He subsequently commanded a cadet company of the 152nd course of the Military Academy and attended the 97th course of the War College, ISMI and the British Army Staff College. He served in the Staff of the "Julia" Alpine Brigade, during which time he was also with the Rescue Operations Centre set up for the Friuli earthquake disaster. After a period of service with the training and regulations section of the Army General Staff, he was CO of the "Susa" Alpine battalion attached to the NATO AMF(L). He currently directs the regulations section of the Army GS.

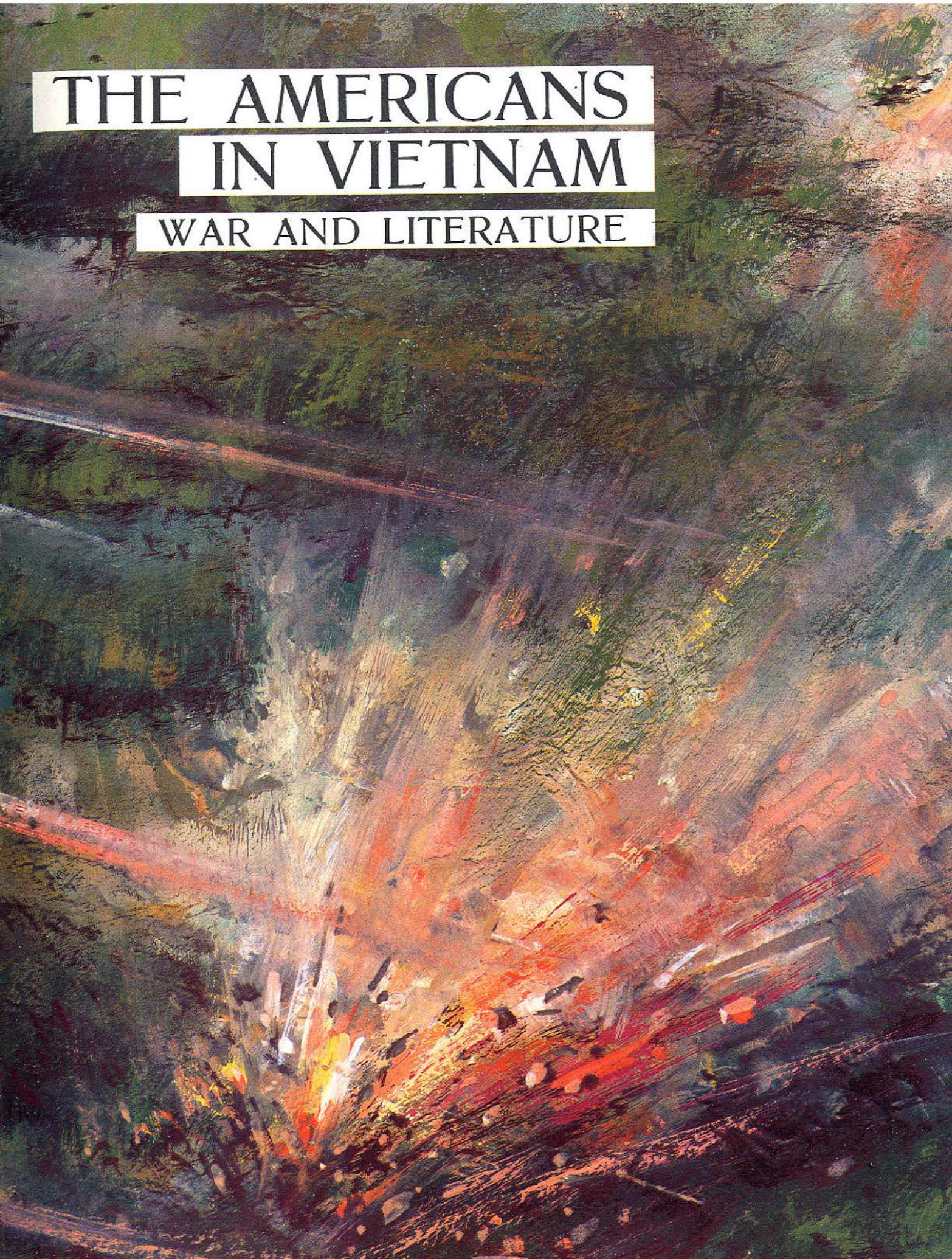


The American war in Vietnam began in the '60s, with the arrival of the first "advisors". After this, with various ups and downs, it escalated until early 1973, when the last US units were withdrawn from the area. The Saigon regime and the South Vietnam Army (ARVN) suffered their final collapse two years later, in April 1975.

The specific purpose of this article is to analyse US literary production directly influenced by the Vietnam war. The term "literature" is used in the sense of creative activity, of personal and collective response to a shared experience and the cultural re-

elaboration of reality. Despite its intrinsic interest, the subject has so far been barely broached in the United States and there have been comparatively few specific contribution on the matter. Furthermore, little use has been made of the extensive specialized bibliographic references which still exist on the topic and are by no means restricted to the military aspects of the conflict (1).

SHORE

An abstract painting depicting a chaotic battlefield scene. The composition is dominated by dark, swirling colors like green, blue, and black, suggesting smoke and the aftermath of battle. A bright, fiery explosion of orange, red, and yellow is the central focus, with streaks of light and smoke radiating from it. The brushwork is thick and expressive, conveying a sense of movement and destruction.

THE AMERICANS IN VIETNAM

WAR AND LITERATURE

And yet, to be able to analyse the meaning and the consequences of a war through the emotional and cultural reactions of those fighting it or observing it from close quarters, and with the additional capacity to narrate it afterwards, is of fundamental importance in penetrating the fighting man's psychology, his motivation, his deepseated anxieties, his reaction to danger, the anything but easy relations with the military hierarchy and the dominant ideology.

In the specific case of the Vietnam war the constant general impression is one of a nightmarish atmosphere, a costly and yet useless hell of destruction, a situation of stress at all levels, an overall feeling of frustration involving all and sundry which triggers a series of unresolved conflicts. The morale of the US troops reached rock bottom between 1969 and 1973, and became a factor with far-reaching negative consequences on American collective confidence in its military machine. Not that the Vietnam war had ever been popular in the United States – quite the contrary. The "Vietnam syndrome" for many years has hung like a cloud over all efforts to reorganize the US Army and over American foreign policy (2).

It is no easy matter to pick one's way through the US literature production based on the "dirty war". Neglecting the literature protesting military intervention, which has been collected in large annotated anthologies (3), we are left with collections of poems, memoirs and at least sixty novels. Together with cheap paperbacks like "Everyday Heroes" by F. Hughes (1981) or "The Green Berets" by R. Moore (1965), which was made popular by John Wayne's cinema version (1968), we have such valid prose efforts as "M" by John Sack (1967), "Why are We in Vietnam?" by the versatile Norman Mailer (1967), "One very hot Day" by David Halberstam (1967). Other excellent novels are "Stringer" by W. Just (1974), "Born the 4th of July" by R. Kovic (1977), "The 13th Valley"



by J. Del Vecchio (1982), "A Rumor of War" by Philip Caputo (1977), "92° in the Shade" by T. McGuane (1973). We have an authentic masterpiece in "Going after Cacciato" by Tim O'Brien, a soldier-cum-writer (1978), who had already written "If I die in a Combat Zone..." (1973). None of these books have so far been translated into Italian.

Half way between journalism and literature we then have the collections of articles by well-known pressmen and special correspondents, who followed the conflict for years and were thus able to observe and document many of its vital aspects: Bernard Falls, an American correspondent who had been there right from the start and was tragically killed in 1967 (his "Last Reflections on a War" was published posthumously), Michael Herr, a reporter at Khe Sanh, the author of "Dispatches" (1977), now considered "a classic". Also very interesting are the Australian William Burchett (a good friend of the Viet-Cong) and, from Italy, Tiziano Terzani, Goffredo Parise ("Due o tre cose sul Vietnam", 1967) and the ubi-

quitous Oriana Fallaci ("Niente e così sia", 1969).

After a period of silence, we are now witnessing a spate of memoirs, accounts by prisoners of war and collections of interviews given to Vietnam war veterans. One of these "oral books" which would deserve a good Italian translation is "Nam" by Mark Baker (1981), although it is necessary to wade through large numbers of military acronyms and often untranslatable Marine slang (4). Above all, one must be psychologically prepared to make a kind of hallucinating descent to hell, something to which we were brutally but courageously initiated by films like "The Deer Hunter" or "Apocalypse Now".

The American war novel boasts a solid tradition. The forerunner of this genre was "The Red Badge of Courage" written by Stephen Crane in 1895 but set in the period of the American Civil War. Further developments came during World War I with "Farewell to Arms" (1929) by Hemingway, "Through the Wheat" by T. Boyd, "Three Soldiers" by Dos Passos (1921), "Paths of Glory" by Cobb (1934). World War II produced "From here to Eternity" by James Jones (1951), "Guard of Honor" by G. Cozzens (1948), "Battle Cry" by Leo Uris (1953) and above all Norman Mailer's masterpiece, "The Naked and the Dead" (1948). Although set in World War II, "Catch-22" by Joseph Heller (1961) actually reflects a later political and military situation. Many of the above novels have been made into, often very good, films. Indeed, much of American literature passes through Hollywood.

The literary production based on the Vietnam is visibly different from the above novels, obviously because of the unconventional nature of this conflict. Thus, while technology is ultimately acknowledged to be a determining factor in modern warfare (and possibly in our existence itself), there is also a tremendous multiplication of the demoniac and neurotic elements, of "darkness", of prolong-

ed stress, an awareness of the uselessness of the efforts being made, the ever-present threat of ambush, the sense of crisis and general insecurity. Sometimes the scenes are like psychedelic visions, sometimes we are conscious that nervous breakdown is lurking just below the surface, aggravated by the uncertainties of the higher ranks as to how the war should be conducted. The Vietnam veterans still bear the scars of this experience (5).

Of the two elements in question (e.g. technology and "darkness"), the former is not in itself an original concept, in the sense that the importance of technological influence on the human element simply reflects the social and military reality of America as it has developed since World War II. The ultimate result was that immense and complex military, political and industrial Superpower apparatus with which we are all familiar.

In actual fact, one of the most significant aspects of the Vietnam war is the undue confidence placed in technology: armed helicopters, supersonic fighters, strategic bombers, weapons with extraordinarily high rates of fire, costly and sophisticated instruments, thousands of tons of bombs – not to mention the tremendous logistic efforts to supply a million men – were not enough to win the war. Indeed, we witnessed the greatest waste of resources in military history.

Advanced technology was virtually ineffective on such difficult terrain, where an elusive and relatively ill-equipped enemy proved extremely formidable. Indeed, recent US specialist studies on the subject have finally done justice to the unique and decisive importance of the human factor in warfare (6).

An analysis of the technological factor from a literary point of view has already shown that

the technological age war novel is less an offshoot of the "great" American tradition and more akin to the "science fiction novel of the '60s". Although visibly influenced by rapid technological progress, the latter nevertheless has also made a critical analysis of its possible effects on society. Kurt Vonnegut in particular deserves further study; his "Slaughterhouse Five" (1969) displays interesting analogies with "Catch 22" by Heller (1961): i.e. surrealist situations, "sick" humour, computers, complex chains of command, gigantic logistical organizations, destructive power out of all proportion to the size of the target, the possible occurrence of fatal mistakes. Also "Doctor Strangelove" springs to mind, the grotesque Kubrick film starring Peter Sellers. It is no coincidence that both Vonnegut and Heller were bomber pilots during the war. The former was also a witness (as a prisoner of war) of the devastation of



Dresden: technology and apocalypse coexisted even before the nuclear era, and surrealist satire is a cultural form of survival (7).

The dark, demoniac, irrational element is a different matter entirely. Before being turned into subject matter for cultural re-elaboration in the form of "Apocalypse Now" or the long series of journalists' novels or war veterans' memoirs, this *Darkness* was essentially a traumatic experience for anyone having been in Vietnam.

On every page one reads about Vietnam, one is struck by the continual revelation of the "American" extraneousness to the Asiatic world, by the impossibility of exerting any real and definitive control over the situation. Even the natural environment seems to be irreducible: the jungle (which represents concrete rather than merely symbolic reality) ends up by being an environment that is uncontrollable both militarily and rationally. Neither defoliants nor napalm provides an ideal way of solving the problem. On the other hand, the enemy feels safe on this terrain, which he knows well. He also enjoys the support of the population (without which no guerrilla war can be won) and avoids all direct confrontation with the highly equipped US troops. But he manages to attack continually and everywhere, leaving boobytraps behind him. Even the large bases on the coast, such as Da Nang, are sometimes not safe. Saigon is represented in this literature as a kind of corrupt and perverse Babylon, which will ultimately call down divine wrath upon itself...

The continual stress ultimately leads to emotional disorders which can end either in a kind of breakdown of conscience, or neurosis or daydreaming. It is precisely the rational defence and collective control mechanisms that are stretched beyond endurance, although the collapse of the nervous system (and sometimes the heart attack) can often be put off in time (8). From this point of view the Vietnam war is "infernal" in all senses of

the term. It is only to be hoped that no army, American or otherwise, will ever have to repeat the experience.

Darkness, however, has a precise cultural referent. The term is used with this linguistic and conceptual meaning by Joseph Conrad in "Heart of Darkness", a long story published in 1906. Although originally set in the Belgian Congo, the book provided many writers about Vietnam with a more or less conscious reference, not to mention F. Ford Coppola, who actually followed the book's plot and structure.

Darkness gives a good description, or rather evocation, of the quite "western" sense of dismay at not being able to exert rational control over a world that differs from one's own, particularly a dark and tropical one. This is the atmosphere that prevails in a recent film, "Southern Comfort", directed by Walter Hill.

But it is precisely at the moment of describing experiences and "elementary" states of mind, i.e. those linked to pure survival, that the gap narrows considerably between true literature with all its cultural re-elaborations, and more immediate personal memoirs. Of course, the use of metaphors and more or less conscious text and style quotations are factors which distinguish the professional writer from the soldier interviewed in "Nam". And yet one has the impression that once the decks have been cleared of the cultural superstructure the actual subject matter can be seen to be pressing to come to the surface in the collective consciousness, through the repressive barriers to which hallucinating experiences are often subjected. In this sense William Styron, the author among other things of "The long March" (1968) is right when he says that the author writing about war is in fact attracted by it to a greater extent than he would be prepared to admit (and the same could be said about journalists and photographers). However, the

basic stimulus comes from an inner need to narrate, to bear witness. Only at a secondary level is the story-telling translated into linguistic and literary structures.

Of course, the experience of the war (however traumatic it may be) has a special cultural significance: it is the "Event", at least for those who do not make a profession of it, as is proved by the thousands of novels and memoirs that accompany any war worthy of the name. In a way, the best literary production on the subject ultimately consists of that which is apparently more immediate, less culturally re-elaborated, more closely linked to personal and collective experiences, but in any case autobiographic and without too many theories to demonstrate. Examples of what I mean are "All quiet on the Western Front" by Remarque (1929), "Old Soldiers never die" by F. Richards (1933) and the Italian "Centomila gavette di ghiaccio" by Bedeschi (1963). In these memoirs the wretchedness of war emerges much more effectively than it does for instance in James Jones' ambitious but rhetorical novel "From here to Eternity", which is as full of affected psychological introspection as it is of phrases of the type "because I am a Soldier".

On closer scrutiny, however, also Jones' book is seen to have the typical structure of all the other war novels: it describes an initiation, it is a Bildungsroman or novel of education. And this brings us to the heart of the matter: military apprenticeship, traumatic experience, the long road to peace, are all part of the overall scheme of initiation, and are perceived as such. The survivors cannot in any case remain as they were; their system of values has to change out of necessity. The basic premise is in fact that the hero will ultimately overcome (others will fall by the wayside) and be saved. He will attain a new status precisely by following the thorny path of initiation. This is what





anthropologists call the hero's initiation pathway. It is only in comic strips and propaganda that the soldier always remains steadfast, practically untouched by the experience, never prepared to question or reassess his own Truth.

But then this universe, at once symbolic and functional, mystical and earthly, military and religious, is not a modern cultural re-elaboration but goes back much further in time. Modern anthropological and literary criticism have identified its deep-rooted links with the complex world of the initiation rituals undergone by young males, which are still in vogue in the so-called "primitive peoples". These ceremonies are full of trials of valour, blind obedience, revealed truth, ritual investitures, periods of isolation, ritual death and rebirth, until the final acquisition of a new status, which is both socially functional and symbolic. Indeed, it is astonishing to note to what extent traces of this complex structure are retained even in the most modern armies: i.e. in certain formalisms, in the typical rituals of the military schools, and above all in the various stages of recruit training (9).

To come back to the American war novel, while the *Bildungsroman* structure is respected throughout the genre, the fiction based on the Vietnam war deviated from the "classical" model in certain respects that must be interpreted as typical of a truly independent re-elaboration:

- *Initiation is more brutal than in the other American wars.*

The soldiers are comparatively unmotivated, too young (18-19 years old, as against an average of 24-25 years in World War II), often badly led, witnesses of, when not actually participants in, actions they disapprove of. They are continually on the defensive against an elusive enemy, and often against their own means of destruction. Their military and political objectives are hardly ever attained, although the units are decimated just the same. Although lasting only twelve months, the "Vietnam Round" is an experience they will never forget.

- *While Darkness is obvious, Light is much less so.*

There is nothing to compensate the sacrifice, no alternative system of values with which to

replace the nightmare. The received ideas are very soon weighed in the balance and found wanting; there is a feeling of betrayal. However, the collective realization of all this leads to a powerful urge to escape. For the American soldier the real objective is now to escape, if necessary even mutilated, from this hell. Also on the literary plane, the *Dream* is given a virtually psychedelic treatment.

- *Those who escaped it are marked by the hell they have come through.*

The social rehabilitation of the veterans has not been an easy task, and still represents a large social problem to be solved (10). Morally lynched by public opinion, which has treated them as the scapegoats for both the atrocities committed and the military defeat, still in a state of shock, now often drug addicts or alcoholics and incapable of returning to a normal productive activity, the "vets" have become the victims of the wrong war.

All this is obviously reflected in a different literary style, in different linguistic choice, tending towards brutal descriptive immediacy, or else in the development of the *Vision*, or in that surrealism that only survival is capable of producing. If literature consists basically of the organization of chaos, the Vietnam war has called for an immense effort to be made also in this field. This is a different, and in a certain sense, atypical experience for American culture, mainly because this war was never declared, nor won either.

SOLDIERING ON...

A single article is not enough to cope with the huge amount of material available. The best way of presenting it is to select the material carefully and to accompany it with a commentary, in a kind of editing operation.

I propose following the American soldiers in Vietnam by allowing them to describe themselves in the pages of the novels and through their personal accounts. In a certain sense the

reader is asked to identify with them, to accompany them on their existential journey through the ricefields and jungles of Vietnam.

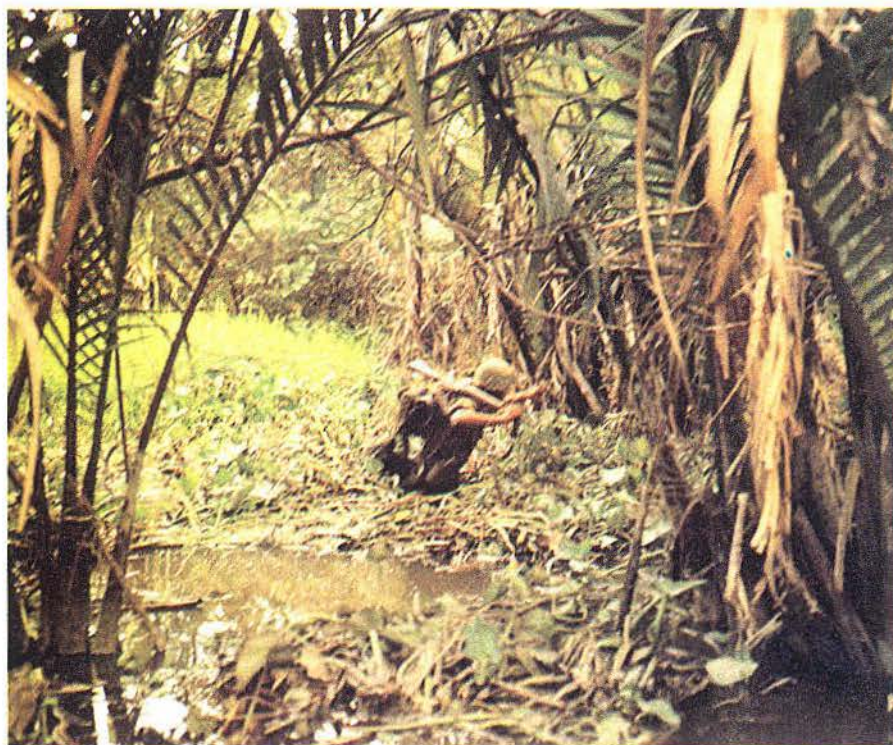
ASK NOT...

Many of the books, particularly the memoirs, begin with the draft call-up. At the present time, the US Army is organized exclusively on a volunteer basis. Up to 1973, however, there was conscription (which was abolished precisely because of the Vietnam war). A total of 1,759,000 Americans went on the "Vietnam Round", of exactly one year's duration. Forty thousand of them were killed and two hundred and sixty thousand more or less seriously wounded.

The training received was, and still is, normal rookie training, except for AIT (Advanced Infantry Training) for the future fighting units, and Fort Bragg for the various "Specials". The organization of the marines (USMC) was different – tougher training and longer tour of duty.

The impact with the barracks and its typical conditioning and constraints are an experience shared by recruits the world over and have been narrated hundreds of times (for instance, in "The long March" by W. Styron, "From here to Eternity" by Jones or "The long gray Line"). And yet it is narrated by the various soldier-writers as though it were a unique experience. This is perfectly understandable, because in the economy of personal and collective experience it marks the abrupt beginning of a slow initiation – from civilian to "Grunt". The various ingredients are known to all – the bellowing sergeant, the parade ground, training, physical fatigue and hours of idleness, mud and forced marches, confrontation with the chaplain, restrictions on personal freedom, doubt and hours spent waiting...

"Nam" actually begins by gathering the firsthand accounts of veterans who retrace the steps leading them to Vietnam,



while a good third of "If I die in a Combat Zone..." is devoted by Tim O'Brien to the internal conflicts that occurred during his period of recruit training. The most original of all is still "M" by John Sack. This journalist-cum-writer followed a combat unit (M Company of the 1st AIT Brigade for the duration of its training period at Fort Dix from December 1965 to February 1966. He alternates between describing the individual experience of single soldiers or the collective experience denoted by "M":

"Talk of that remote Martian area proliferated now in M's last week of training, and rumors became as everywhere as sugar maple seeds in spring—no, they seemed to generate spontaneously, phrases, names, and numbers, the particles of old forgotten sentences, seemed to sigh through the barracks windows and gravitate together, to gather to a greatness like the ooze of oil crushed, to kiss and coalesce like window rime, and listen... listen... listen in the seashell... there would be another rumor, born to grow corpulent on M's wistful hopes and restless fears. One of these free-floating messages went, M was being

posted to Vietnam in toto, all of its divers sergeants included..."

(From: J. Sack, "M", p. 56).

Also "A Rumor of War" by Philip Caputo is different. We are now in the Marines and the author, who had been sent with the first USMC units to Da Nang in 1965, is fully aware from the outset what it means to belong to an elite corps:

"...the Marine Corps, as we quickly learned, was more than a branch of the armed services. It was a society unto itself, demanding total commitment to its doctrines and values, rather like one of those quasi-religious military orders of ancient times, the Teutonic Knights or the Theban Band. We were novitiates, and the rigorous training, administered by high priests called drill instructors, was to be our ordeal of initiation".

(From: P. Caputo, "A Rumor of War", p. 8).

In view of the fact that this was literature written by veterans, this first experience takes on a dramatic significance of predestination. However, the personal motivations actually emerge. Although somewhat generic vis-à-vis those of the Vietcong,

they can be summed up as follows: desire for personal emancipation, sometimes a true bent for military professionalism, although more often a desire to emulate their fathers' deeds:

"I saw older people, World War II age, who weren't in that war. When they were asked about it and what they were doing then, they had to say, 'Oh, well, I was in college'. It was a major historical event that convulsed the world, and yet they missed it. I was the perfect age to participate in Vietnam and I didn't want to miss it, good or bad".

(From: M. Baker, "Nam", p. 7-8).

"War is always attractive to young men who know nothing about it, but we had also been seduced into uniform by Kennedy's challenge to 'ask what you can do for your country' and by the missionary idealism he had awakened in us. America seemed omnipotent then: the country could still claim it had never lost a war, and we believed we were ordained to play cop to the Communists' robber and spread our own political faith around the world. Like the French soldiers of the late eighteenth century, we saw ourselves as the champions of 'a cause that was destined to triumph'. So, when we marched into the rice paddies on that damp March afternoon, we carried, along with our packs and rifles, the implicit convictions that the Viet Cong would be quickly beaten and that we were doing something altogether noble and good. We kept the packs and rifles; the convictions, we lost".

(From: P. Caputo, "A Rumor of War", p. XIV).

Or again, here is Dave Christian, who enlisted at the age of seventeen, as he leaves college and his new bride:

"I didn't think of Vietnam as a political war at the time. My father had served, everyone in our community had served. My two brothers served over in Vietnam. I hailed from a steel community and we handed out

29,000 boys from my county alone".

(From: M. McLearn, "The Ten Thousand Day War", London, 1981, p. 266).

However, literature is mainly cultural re-elaboration. Norman Mailer is probably the one who has taken the concept of initiation to its ultimate conclusion. In "Why Are We in Vietnam?" the various collective events are combined and integrated, and linked up with American frontier tradition, which in his opinion is what explains the deep-seated motivations behind US intervention in Vietnam. "Why Are We in Vietnam?" is not an "easy" novel, but it has the great merit of proposing a theory to explain the origin of the war. The theory is that "progress" has developed in the United States a society and a technological power that make war a necessity, and Vietnam becomes just another place where it can be waged (11). In the book, the eighteen-year-old D.J. is sitting at table with Tex Hyde the evening before leaving for rookie camp. The parallel continues between the hunting of a famous huge bear, a "grizzer" – a reference to the initiation – and Vietnam, with all the attendant mythical, sexual, etc. connotations. We are reminded also of "The Deer Hunter", the film by Michael Cimino, in which not only do hunting and war receive parallel treatment, but there is even a reversal of roles, from hunter to hunted.

UNE SAISON A L'ENFER

While romanticism of manner or political propaganda have the task of making war pleasant and acceptable (see "The Green Berets"), Vietnam is found to be impervious to rhetoric. When the people writing are veterans, the picture they paint becomes a highly vivid one and the language they use is brutally realistic. Here is how a few authors speak of their first contact with Vietnam:

"I arrived in-country at Cam Ranh Bay. It's hot. The kind of hot that Texas is hot. It takes your breath away as you step

out of the airplane. We were loaded on an olive-drab school bus for the short ride from the airstrip over to the compound. There was wire mesh over the windows. I said to somebody, 'What the hell is the wire for?'.

'It's the gooks, man, the gooks', they say. 'The gooks will throw grenades through the windows. See those gooks out there?' I look out and I see shrivelled, little old men squatting beside the road in the fashion of the Vietnamese, filling sandbags. They looked up at me with real contempt on their faces.

Here we are at one of the largest military installations in the world and we have to cover the windows to protect ourselves from little old men. I didn't put it all together at the time, but intuitively I knew something was wrong".

(From: M. Baker, "Nam", p. 26).

"Wolf said: 'Look, FNG, I don't want to scare you – nobody's trying to scare you – but that stuff last night wasn't shit! Last night was a lark. Wait'll you see some really bad shit. That was a picnic last night. I almost slept through it'. I wondered what a FNG was".

(From: T. O'Brien, "If I die in a Combat Zone", p. 81).

"But when we got on the ship, everything was hush-hush. I made friends with a couple of sailors. They told me there was a sub following behind us, armed to the teeth. We didn't know anything was fugazi until we got to a certain place in the South China Sea. A loudspeaker came over the air, 'This is your captain speaking. Be advised that your destination is Da Nang, Republic of Vietnam'. Everybody looks around. What the fuck is a Vietnam?".*

(From: M. Baker, "Nam", p. 25).

"When I jumped back out, my squad leader looked at me and he kept looking at me. Why is this man looking at me so hard? He looks me over again and screams, 'Where did you get that shit from? Where did you get it?'.



'What? What are you talking about?'

'Them jungles you're wearing'.

'I got the shirt from that pile there and the pants from this one here'.

'Get them off, take them off!'. The same time that he's yelling for me to take them off, he's pulling them off me with both hands like a crazy man. I'm trying to get away from him, calm him down.

'Okay, okay, give me a chance. Wait a minute here. I'll take them off. You don't got to rip my clothes off'.

'Get that shit off. Don't you know what piles those are?'

'How do I know? The lieutenant told me to get jungles out of there'.

'That damn boot's only been here two weeks. Them clothes is from the KIA'.

'What the hell is KIA?'

'Killed in action'.

(From: M. Baker, "Nam", p. 44).

And so on. A whole anthology could be filled with a jigsaw of accounts, novels and reports on the subject. Although it is a fact that routine prevails over action. Except for the Keh Sanh siege and the Tet offensive (respectively in 1967 and 1968), and the large-scale early operations of "Search and Destroy", few battles were fought in Vietnam in the classical sense of the word. This is sometimes stated explicitly:

Writing about this kind of warfare is not a simple task. Repeatedly, I have found myself wishing that I had been the veteran of a conventional war, with dramatic campaigns and historic battles for subject matter instead of a monotonous succession of ambushes and fire-fights. But there were no Normandies or Gettysburgs for us, no epic clashes that decided the fates of armies or nations. The war was mostly a matter of enduring weeks of expectant waiting and, at random intervals, of conducting vicious manhunts through jungles and swamps where snipers harassed us constantly and

booby traps cut us down one by one.

The tedium was occasionally relieved by a largescale search-and-destroy operation, but the exhilaration of riding the lead helicopter into a landing zone was usually followed by more of the same hot walking, with the mud sucking at our boots and the sun thudding against our helmets while an invisible enemy shot at us from distant tree lines. The rare instances when the VC chose to fight a set-piece battle provided the only excitement; not ordinary excitement, but the manic ecstasy of contact. Weeks of bottled-up tensions would be released in a few minutes of orgiastic violence, men screaming and shouting obscenities above the explosions of grenades and the rapid, ripping bursts of automatic rifles.

Beyond adding a few more corpses to the weekly body count, none of these encounters achieved anything; none will ever appear in military histories or be studied by cadets at West Point.

(From: P. Caputo, "A Rumor of War", p. XIV-XV).

Or else, it is all marching and fruitless reconnaissance patrols:

"While Price gathered his kit, Stringer scouted the mountain: up, down, long looks to the left and right, a careful inspection of their surroundings. He was looking for any sign of trespass, a cigarette pack, the residue of a fire, paper of any kind. There was nothing at all, the bluff was pristine.

'What do you see, Stringer?'

'The footprints of a gigantic hound', he muttered.

'What the hell are you talking about?'

'A joke, Price'.

'Well, you can save those'.

'There's nothing here. No hounds, no nothing'.

'Save the jokes'.

(From: W. Just, "Stringer", p. 8-9).

"My real frustration", says Webb, 'is trying to explain what the infantry went through. I was not prepared for the continual primitiveness; I had three hot



meals in nine months. I carried my pack – it had a poncho, a tooth-brush, letter-writing gear and that was it. That was all I carried for nine months. We moved every two days; didn't take a bath for months literally; may be wash off in a stream, or find a well. We ate C-rations continually. And virtually every single person in my unit got either ring worm, hook worm, dysentery or malaria. And some of us had them all'.

Webb watched as one by one his platoon of twenty-five fell to the attrition of the bush, only to be replaced in the war that was over except for a date: 'During one period – not quite seven weeks – I took fifty-one casualties, and when number fifty-one got his arm blown off



I sat down next to him and cried like a baby. I had had it'".

(From: M. McLearn, "The Ten Thousand Day War", p. 268).

There are hundreds of personal accounts of this kind. From the literary standpoint, those with a talent for writing, like Tim O'Brien or Philip Caputo, manage to dose the tension carefully usually breaking it with a sudden fire fight. For example:

"The fog rose.

The quiet was in his head now. It was swollen there, pushing out. It was all in his head.

Morning came and the men climbed from their holes, had breakfast, rolled up their ponchos.

Buff kept shaking his head. Stink Harris grinned, and Cac-

ciato packed away the basketball, and Frenchie Tucker complained about his blood pressure. Paul Berlin felt it in his head.

They doused the breakfast fires.

When the gear was packed, Lieutenant Sidney Martin raised a hand and led them across the river. The water was warm. It warmed their legs and belly.

Then they were out of the water, regrouping, moving up the clay path into Trinh Son 2. Paul Berlin's head roared with quiet. Splitting – but he moved into the dark village. When Rudy Chassler hit the mine, the noise was muffled, almost fragile, but it was a relief for alla of them.

(From: T. O'Brien, "Going after Cacciato", p. 108-109).

The more action-filled chapters alternate with a soldier's reflections (on himself, of course) during his turn of guard duty in his observation post.

One more unusual case is a novel based almost entirely on a day of "heavy contact" – "One very hot Day", by D. Halberstam (1967), a typical "patrol novel", which spans the space of a single but infernal day.

It must be acknowledged, however, that only ten percent of the half million troops in Vietnam were actually combat units, which also comprised an extremely high percentage of blacks (12). Moreover, in order to avoid further stirring up public opinion against an already unpopular war, service in Vietnam was limited to exactly one year's duration (one book on the life of US soldiers in Vietnam is actually entitled: "365 Days") (13). This is, in fact, one of the reasons why the war lasted so long. The infantryman's life was the concern of only part of the US Army, and for the fellow Americans back home Vietnam was far away, despite the television and newspaper reports. In any case, the media (with the exception of the "New York Times") were interested only in giving the official version of the facts (14).

If we go back and look at the news reports and magazines again, we are in any case aware of the continual clash between technology and human beings, between incredible fire power and the uselessness of the efforts. This is perhaps the most spectacular aspect of the war. Considerable capital is made of this contrast in the literature:

"At night you could lie out on some sandbags and watch the C-47's mounted with Vulcans doing their work. The C-47 was a standard prop flareship, but many of them carried .20- and .762-mm. guns on their doors, Mike-Mikes that could fire out 300 rounds per second, Gatling style, 'a round in every square inch of a football field in less than a minute', as the handouts said. They used to call it Puff the Magic Dragon, but the Ma-

rines knew better: they named it Spooky”.

(From: M. Herr, “Conclusions at Keh Sanh”, p. 118 et seq.).

“Simply by speaking a few words into a two-way radio, I had performed magical feats of destruction. Summoned by my voice, jet fighters appeared in the sky to loose their lethal droppings on villages and men. High-explosive bombs blasted houses to fragments, napalm sucked air from lungs and turned human flesh to ashes. All this just by saying a few words into a radio transmitter”.

(From: P. Caputo, “A Rumor of War”, p. 4).

Indeed, the amount of fire support continually being called up by the units in Vietnam from the air force or the “Big Boys” (the artillery) was greater than ever before in the history of war:

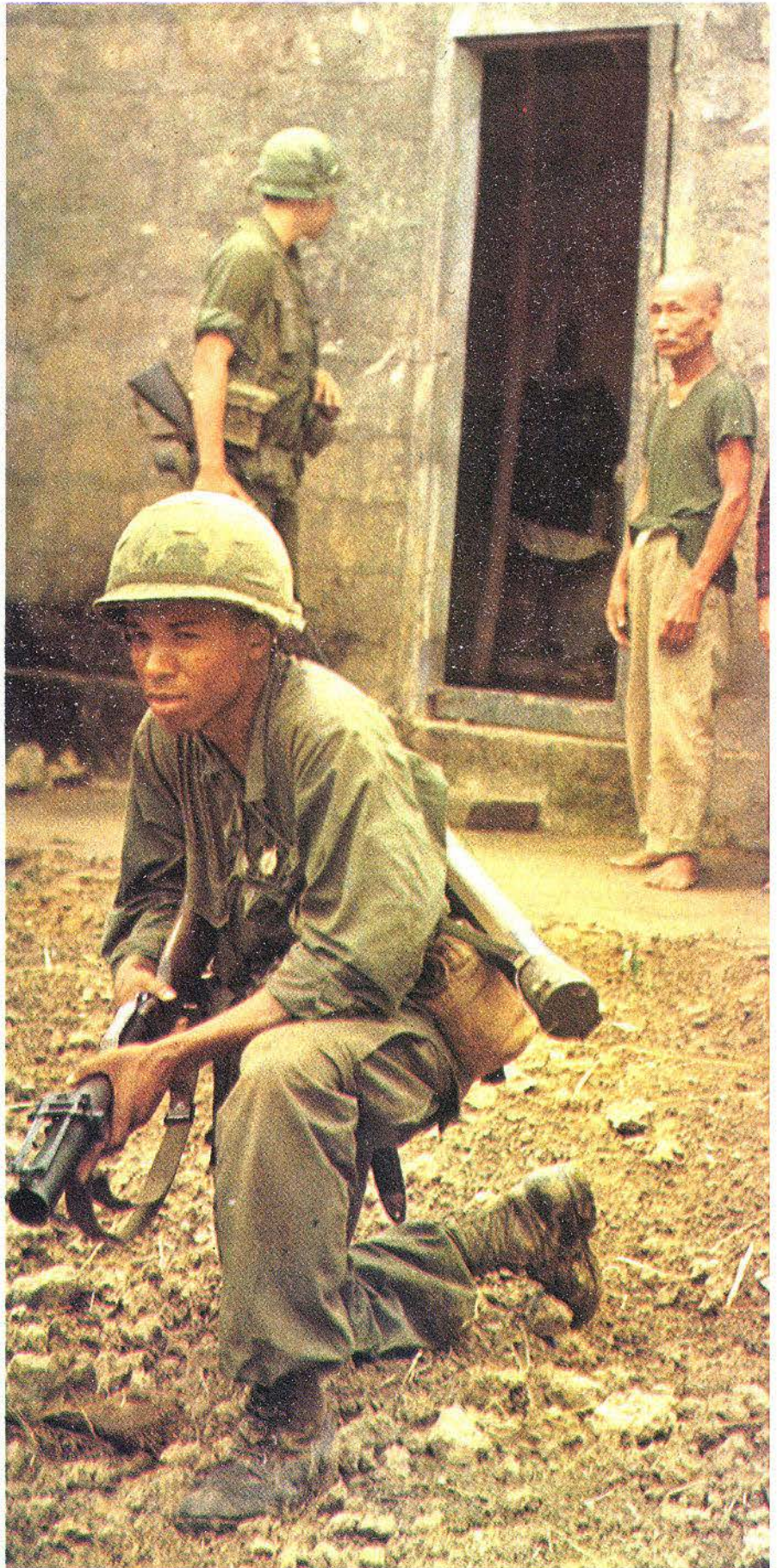
“Absolute priority was given to these demands... during three months and a half. Duc Pho batteries fired alone 64,044 rounds on populous level areas... not counting rounds fired by naval units from South China Sea or by mobile batteries used in close tactical support to operations”.

(From: J. Schell, “A Reporter at Large: Quang Ngai & Quang Tin”, “New Yorker”, 9th March 1968).

This technological superiority is reflected also in the peculiar code system used in linguistic expression, which is perceived as expressionistic by the ordinary reader:

“Enemy sit. Aggressor forces in div strength holding MRL Hill 820 complex gc AT 940713-951 w/fwd elements est. bn strength junction at gc AT 948715 (See Annex A, Comphibac intell. summary period ending 25 June)... Mission: BLT 1/7 seize, hold and defend obj. A gc 94875... Execution: BLT 1/7 land LZ X-RAY AT 946710 at H - Hour 310600... A co. GRS estab. LZ security LZ X-RAY H minus 10... B co. advance axis BLUE H plus 5 estab. blocking pos. vic gs AT 948710...”.

The alternation of the two codes, i.e. the human and the technological, the clash between



the two worlds, i.e. the American and the Vietnamese, is what actually forms the "classical" aspect of this war. It is found in "Last Reflections on a War" by B. Fall, in "Dispatches" by M. Herr, in "Americani e Vietcong" by F. Gigno, in "Niente e così sia" by Oriana Fallaci, etc. Of course, the human factor wins in the end; technology is not enough by itself.

It was precisely at the individual level that the "Grunts" were at a disadvantage. They were often overloaded, but above all the enemy was better armed. At the beginning the M16 rifle was much less reliable than the AK47 (a drawback that was overcome by chrome plating the breech). The uniform material was not always suitable for the sub-tropical climate. Oddly enough, the regulations only allowed the Specials and the South Vietnamese troops to wear camouflage clothing. W. R. Corson, a Lieutenant Colonel in the Marines, wrote:

"To illustrate, the M-16 rifle uses a cheaply manufactured twenty-round magazine; however, because of the magazine's construction and the cheap spring only eighteen rounds can be placed in the magazine. If the full twenty rounds are forced into the magazine a 'failure to feed' is almost a certainty. A Marine or soldier in a gun-to-gun duel faces a North Vietnamese soldier or Vietcong armed with a Soviet or Red Chinese-made AK-47 automatic rifle. The AK-47, which is many times more reliable than the M-16, has a magazine made of good metal, it contains a good spring, and it holds thirty rounds. Ground combat is not like a movie, where the hero never has to reload. Our troops will die because they cannot equal the thirty rounds of the AK-47. One might ask why we do not have a thirty-round magazine for our rifle".

(From: W.R. Corson, "The Betrayal", p. 288-289).

The figure of Corson and his book brings us to another two aspects of the problem: commando actions and the atro-

cities committed in Vietnam. Both aspects, which are interrelated, have formed the subject matter for studies and literature.

The conclusions are univocal: the US soldiers were badly led and the Vietnam war will be remembered for its brutality. Episodes such as My Lai 4 are indicative from both standpoints.

The studies were carried out by the US Army itself: "The Collapse of the Armed Forces" by Colonel R. Heintz Jr. and "Crisis in Command" by Major R. A. Gabriel and Lt. Colonel P. L. Savage – all career officers – are as pitiless as "The Betrayal" by Lt. Colonel Corson. Too many officers (fifteen per cent of total strength, at least in the last few years) who were hardly ever present: they were always on helicopters or in distant CPs, commanding the men, by whom they were referred to with the collective terms of REMFs (Rear Echelon Motherfuckers). Moreover, in order to ensure more rapid promotion, their tour of duty in Vietnam was reduced to six months. In his "Soldier reports" Westmoreland wrote that he had never in his life seen so many officers. This combination of inexperience and the gap between the officers and men was detrimental in all senses: heavy losses (800 killed and 6000 wounded per month in 1969), gradually spreading indiscipline and laxity, and ultimately creeping mutiny or the murder of over-zealous officers. The year 1969 saw the coining of a new slang term, "fragging", which meant killing an unpopular officer with a fragmentation bomb. It has been officially estimated that between 1969 and 1971 there were a total number of 730 "accidents", 83 of which were "successful" (15).

The literature is full of situations like the ones cited. In "Captain Hollister" a captain given the task of writing letters to the families of dead soldiers has a nervous breakdown. "The Lion Heart" by Alan Clark is brimful of brutality, in "The Last Bridge" by Brian Garfield a squad is sent on a suicide mission,

while in "Body Count" by W.T. Huggett the monotony of waiting to go into action mingles with the horror of war and the mistaken decisions of the higher officers. However, also "Nam" is full of inept or remote officers and of attempts to do them in. In "If I die in a Combat Zone", T. O'Brien gives a vivid description of the tactical errors committed by "Captain Smith" (the name is fictitious but the episode actually happened), who is ridiculed by his men (p. 156 et seq.) and ultimately transferred.

Likewise, the first important military undertaking of "M" is the killing of a Vietnamese girl during "Operation Mastiff". What is worse, Corson is the only one to write explicitly that to win a guerrilla war it is necessary to win over the support of the local population (which, as a Marine officer, he succeeded in doing in the district under his command. "The Betrayal" is perhaps one of the best books ever written by a career officer). This is in open controversy with "Westy's" "Bulldozer-krieg" and the random or deliberate destruction caused to the Vietnamese farmers, whether Vietcong suspects or not.

All the books written by Americans clearly reveal their absolute incomprehension of Asian culture, their ignorance of the Vietnamese language and society, the feeling of being surrounded by hostile people. Giap was right when he said that the Americans were basically fighting a defensive war in Vietnam. He might also have added that being unable to distinguish between friend and foe did not stop them shooting.

Atrocities of all kinds are reported in all quarters, in political writings of the time (e.g. "War Crimes in Vietnam", edited by Bertrand Russell) in press reports and in fiction. Some pages in "Nam" make your hair stand on end, especially Ch. III, "War Stories", which is divided into "Victors" and "Victims" (pp. 129-154).

The question asked in other books is how clean-living farm-



boys from Iowa could possibly have massacred civilians and prisoners of war. Philip Caputo devotes the entire last chapter of "A Rumor of War", in which he himself and the other soldiers play the main roles, to showing to what extent war can bring out violent psychopathic tendencies in otherwise normal men. He postulates (Introd. p. XVIII) that the evil was not in the men themselves but in the circumstances in which they had to live and fight (see also p. 216-217), in the continual frustration and enemy atrocities. A similar picture is painted also in "The 13th Valley" by John Del Vecchio. Caputo states that "the Americans were horrified by the atrocities committed by their troops because the American soldier was a reflection of themselves".

This brings us to My Lai 4, the symbol of a war. The massacre took place on 16 March 1968, but was reported by the media only one year later (16). That particular day Lt. Calley led a platoon of thirty soldiers to a village in the Quang Ngai area, where he destroyed everything and killed from 200 to 500 unarmed civilians, including women and children. Lt. Calley was subsequently described as an idiot who, in normal times,

would never have risen to the rank of lieutenant. The subsequent trial revealed that the military machine was heavily implicated. Nor was Mai Lay 4 an isolated episode in this kind of war. May Lai 4 was actually a group of villages around Son My, and the GIs called in "Pinkville" (the colour pink is used on military maps to indicate a "contended area"). The VC were known to be in the area, although they were certainly not in the village. On 25th February six Grunts were killed by mine explosions and twelve others badly wounded. There were further losses on 14th March. The day after, the battalion CO, Lt. Colonel F. A. Barker Jr. called the Charlie Company commander Captain E. L. Medina and told him that there were at least 250 VC in the area and to go and destroy the village. He had 24 hours to prepare the operation. The rest is historical fact.

This is what O'Brien, who also happened to be in the area, was to write:

"I knew it was a bad place. We were afraid to go to Pinkville. It was a sullen, hostile, unpeopled place. We'd go among the My Lai villages and there were never any people: deserted, and yet there were smoldering fires –

people obviously lived there. It was a place where men died. It was a heavily mined area. There was no tangible object to attack except the land itself. And in a sense the area of My Lai itself became the enemy, not the people of My Lai, not even the Viet Cong, but the physical place – the sullen villages, the criss-cross paddies, the bomb craters and the poverty of the place became the enemy. We took revenge, burning down huts, blowing up tunnels".

(From: T. O'Brien, "If I die in a Combat Zone", p. 81).

The following quotation comes from "The Tarnished Shield" by Lt. Colonel George Walton:

"Within My Lai-4 the killings had become more sadistic. Several old men were stabbed with bayonets and one was thrown down a well to be followed by a hand grenade. Some women and children praying outside of the local temple were killed by shooting them in the back of the head with rifles. Occasionally a soldier would drag a girl, often a mere child, to a ditch where he would rape her. One GI is said to have thrown a grenade into a hootch where a girl of five or six lay that he had just raped. The young were slaughtered with the same impartiality as the old. Children barely able to walk were picked off at point blank range".

The massacre was stopped by a warrant officer, H. C. Thompson (later decorated). When Colonel Barker arrived in his helicopter, he realised what was happening. He telephoned Captain Medina and ordered him to cease fire. Then they tried to cover everything up.

O'Brien further writes:

"On the one hand I was shocked and I thought that this is terrible: you don't kill the people. And then I wasn't shocked. After all the frustrations we had been through, I understood the frustrations that were felt by Calley's company. This is not to excuse his behaviour. I hated what he did. I thought it was

wrong and terrible and I still do. I think that he should have been sent to jail for life. But at the same time, as a man who was there, and who saw men die in the My Lai, I understand what happened".

(From: T. O'Brien, "If I die in a Combat Zone", p. 143).

There was, however, something else from which the Americans could draw the strength to go on – the *Dream*. Many observers (e.g. Oriana Fallaci in "Niente e così sia") have noted how some GIs lived in a surrealist atmosphere, as though they didn't care two hoots about the real world. Everyone referred to America as "The World". Drug-addiction was rife in every unit. Everybody's aim was just to survive, counting the days and hoping to make it. The watchword of the infantry was "CYA" (Cover Your Ass). The *Dream* represented the only possible alternative to *Darkness*, to an unseen enemy, to Vietnam. The *Dream* is also a literary creation which takes the Vietnam literary production beyond mere brutal realism or "technological" surrealism. This is seen in "Going after Cacciato" by Tim O'Brien, for instance. Cacciato is a soldier who has decided to desert and go to Paris (rather like Yossarian in "Comma 22"). He is pursued by a squad who ends up by identifying with his *Dream*. There is an incredible passage in which (about a third of the way through the novel) soldiers exploring VC tunnels blowing them up, as though by psychedelic expansion, slowly pass from one world to another. The tunnel expands into a busy quarter of Chittagong crowded with people... The dreamlike atmosphere of the book is kept up by means of continual flash-backs. Fantasy prevails over reality.



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NOTES AND REFERENCES

(1) Cf.: R. Jumper, "Vietnam: an annotated Bibliography", Documentary Pns, 1980. Also to be recommended to professional soldiers is the "Vietnam Studies" series of monographs published by the Department of the Army. It is written by career officers and deals with separate aspects of the conflict. The series comprises 18 monographs which are available from the Government Printing Office.

(2) Cf.: J. Buttinger, "Vietnam: the Unforgettable Tragedy", New York, Horizon Press, 1977, or the series of articles by P. Goldman: "What Vietnam did to us", in: "Newsweek", 14th December 1981. See also "Born the 4th of July" by R. Kovic, N. York, McGraw-Hill, 1976.

(3) Cf.: G. Louis Health (ed.), "Mutiny does not happen lightly, the Literature of the American Resistance to the Vietnam War". The Scarecrow Press, Inc., Metuchen, N.J., 1976.

(4) For the sake of curiosity I shall cite a few of them: "Big Boys", "diddy-bopping", "fugazi", "klick", "mike-mike", "slick", "chopper", "FNG".

(5) Cf.: "The Scars of Vietnam", special number of "Newsweek", 14th December 1981; P. Gray, "Flowers of Evil", in: "Time Magazine", 11th November 1974; J. Helmer, "Bringing the War Home", N.Y., Free press, 1974; R.J. Lifton, "Home from the War - Vietnam Veterans: neither Victims nor Executioners", N. York, Simon & Schuster, 1973; L. Morrow, "The forgotten Warriors", in: "Time Magazine", 13th July 1981; P. Starr (ed.): "The Discarded Army: Veterans after Vietnam", Charterhouse, 1974. At least the Italian Accademia di Sanità Militare Interforze should order a copy of "Stress Disord-

ers among Vietnam Veterans: Theory, Research and Treatment", edited by C.R. Figley, New York, Brunner and Marzel Pub., 1978.

(6) Cf.: W.D. Henderson, "Why the Viet Cong fought: Study of Motivation and Control in a Modern Army". London, Greenwood Pr., 1980.

(7) Cf.: A. Kazin, "The War Novel: from Mailer to Vonnegut", in "Saturday Review", 6th February 1971, p. 13-15, 36.

(8) C.R. Figley, "Stress Disorders...", cit., see note 4.

(9) In addition to the classical studies by V. Propp and the Russian formalists, I can recommend the book by P.G. Jones, "War & the Novelist", University of Missouri Press, Columbia & London, 1976, p. 19-67. The choice is a happy one in that the author, before beginning his academic career, served in Vietnam as an artillery officer.

(10) Cf.: note 4.

(11) Cf.: P. Jones, "War & the Novelist", cit., p. 53-61.

(12) Cf.: R.W. Mullen, "Blacks & Vietnam", U. Pr. of America, 1981, and S. Vance, "Courageous & the Proud", Northon, 1972.

(13) Cf.: R.J. Glasser, "365 Days", Braziller, 1971, which has also been made into a play by H. Wesley Balk.

(14) Cf.: R.W. Chandler, "War of Ideas: the US Propaganda Campaign in Vietnam", Westview Special Study, Boulder Colorado, 1981. Plus, of course, "Pentagon Papers", which has been translated also into Italian.

(15) Cf.: M. McLearn, "Vietnam: the Ten Thousand Day War", Thames & Methuen, London, 1981, p. 271-72.

(16) Seymour Hersh, "My Lai 4: a report on the Massacre and its Aftermath", New York, Random House, 1970.



FIAT 40-10 WM

The 40-10 WM (4×4) is a tactical vehicle that is light, compact, air-transportable and air-launchable, for road and battlefield transport of troops, supplies and armaments. The truck is extremely mobile and fast, has a payload of 1.5 t and GVW of only 4 t.

This vehicle maintains the easy handling, mobility and speed characteristic of a reconnaissance vehicle while permitting the transport of a team of 12 men plus driver or supplies up to 1.5 t.

The 40-10 WM is also a tractor for artillery weighing up to 1.5 t; the body is suitable for the installation of anti-tank and anti-aircraft missile systems, single or multiple machine guns, recoilless guns, multiple rocket launchers, S. 250 shelters. These tasks are normally carried out by heavier, bulkier vehicles that are less mobile and more expensive overall.

Less than 2 metres wide, this vehicle can travel the narrow mule-tracks when used by mountain troops. The maximum height of 2.25 m, reducible to 1.6 m, allows the air transportation of two trucks aboard a C 130 Hercules. A special kit allows the air launching of the 40-10 WM. This means, therefore, that the vehicle is particularly suitable for air-borne troops.

The vehicle may also be outfitted as an ambulance, command post, weapon stand, etc.

Four wheel drive, load distribution over the axles, a specific power output of 25 bhp/t and high minimum axle ground clearance give the 40-10 WM an excellent mobility over any ground condition.

The engine is a Diesel Fiat 8140. Supercharged and adapted for military use with a power output of 100 bhp (DIN). Hundreds of thousands of units of



the civil version have been produced. They proved their high performance in all climatic environments and under all heavy duty conditions.

The vehicle can achieve top speed of over 100 kph and run for 800 km on a full tank. A fording capacity of 0.7 m maintains the mobility even while crossing water without special preparation. The turning circle of 6 m allows swift manoeuvres in cramped spaces.

A gradeability of over 60% fully laden, a side slope of 30% and high approach and departure

angles are all in the 40-10 WM's repertoire.

The 40-10 WM can operate in any weather conditions: in freezing polar temperatures and in desert heat, in dusty regions and, thanks to its rust protection treatment, in warm, humid and salty areas.

In the truck version, the steel body, anchored at six points, has a fold-down removable tail gate, tiltable side benches for 10 men and a canvas cover. The platform, less than 1 m from the ground, permits easy supply loading and unloading.





SECOND SIMFICS ORDER PLACED

Weston Simfire, manufacturers of a tank tactical training system, has been awarded a second production contract by the UK Ministry of Defence for the retro-reflector version of the Simfics Direct Fire Weapon Effects Simulator system. The order will complete the outfitting of the British Army's fleet of Chieftain MBTs with Simfics and the entire MBT fleet will eventually be fitted with the Weston Simfire designed Simfics system.

Simfics is a development of the Simfire system specifically designed for tanks equipped with the Marconi Improved Fire Con-

trol System (IFCS). The Simfics interfaces directly with IFCS and simulates the tank laser rangefinder, thus enabling tank crews to combine gunnery and tactical training using the operational fire control system under the most realistic conditions. During a simulated main gun engagement, the only operation the crew does not carry out is the actual loading of live ammunition. The ballistic characteristics of the ammunition are simulated by a computer controlled eye-safe laser beam and a simulated hit on the target vehicle is indicated by the detona-

tion of an orange pyrotechnic device.

The order also includes the supply of test equipment for the systems.

Commenting on the order, General Manager Mike Richards said "The decision to equip the entire MBT fleet with Simfics indicates the importance which the British Army places on ensuring that its troops can train realistically with effective tactical and weapon simulators. The Weston Simfire already sold more than 5,000 Simfire systems around the world in more than 35 countries.





GUARDIAN FIRING TESTS

About twenty service attaches accredited to foreign embassies in Rome assembled on 3rd May at the Italian military A/A range on the coast near Rome to witness the performance of the Breda low level air defence system "Guardian". A similar demonstration, to show the accuracy and the effectiveness of the system, had been conducted the previous day before Italian military authorities.

A unit of this system consists of one Flycatcher FCS and two carriage mounted Breda Twin 40L70 Guns. The guns were emplaced 80 metres apart, with the FCS set slightly back, half-way between the guns.

The target was provided by Swedair flying a Mitsubishi a/c towing first sleeve KR27-45-450 equipped with MDI, against which inert rounds were fired to record

miss distances in order to demonstrate system accuracy.

The same procedure was followed on both days. After the accuracy had been demonstrated by firing practice rounds against a KR27-45-450 sleeve equipped with Miss Distance Indicator, proximity fuze prefragmented rounds (fuze by Borletti and ammunition by SNIA BPD Difesa Spazio) was fired against a KRZ751-111-800 sleeve, in order to illustrate the effectiveness of the system, the high lethality of which is mainly attributable to the combination of accuracy and proximity fuze ammunition.

Range safety restrictions limited the firing sector to two second firing against crossing targets. The two Twin Breda 40L70s fired simultaneously-rate of fire 1200 rpm. Target speed was 200 knots and altitude 400 metres.

In the case of the six proximity fuze runs, on each of the demonstration days all six sleeve targets, target coming towards were immediately shot down by the first rounds of the burst.

The six runs firing practice ammunition, each of about two seconds (a total of about 220 rounds) resulted in sixty per cent of all rounds fired falling within two metres of the target, which indicates that in the case of firing against an enemy aircraft target a large proportion of rounds would have been direct hits. This summarizes the results of the trials. Firing proximity fuze ammunition against such a target or a missile almost all rounds would have inflicted damage, with lethal cumulative effect, taking into consideration the actual relatively small sleeve dimensions.





General E. Copel: "Vaincre la guerre - Une autre défense, une autre armée". Lieu Commun, Paris, 1984, 247 pp.

It is difficult to explain why, from time to time, anticonformist officers of the French Army periodically come out with profoundly innovatory solutions to contemporary military problems.

Fifty years after the publication of the famous book, "Vers l'Armée de métier" in which the then Major De Gaulle suggested that to take on the German threat the army had to radically change course by setting up an armoured rapid deployment volunteer force, General Copel, Deputy Chief of Staff of the French Air Force until 10th March 1984, has come up with his alternative proposal. The form and the technical facilities are different from De Gaulle's proposals, and his theory is considerably less substantial.

What Copel maintains in this book is certainly not new, and even less definitive or generally accepted. An eloquent demonstration of the "age of uncertainty" (as Galbraith calls it) which inevitably affects strategy, and which has something déjà vu about it, rather than being a series of genuine solutions, and is based on hypotheses that are always hard to verify: what a difference from the presumptuous plans of 1941!

The new defence model suggested here is fuelled by sharp criticism of the present military doctrine of France and the West, which the author judges to be likely "to lead to disaster". Nuclear weapons, with their present features, only help to deter a nuclear attack, but they are not able to prevent either a conventional attack nor an attack using chemical weapons. A surprise attack with chemical weapons could give the Warsaw Pact conventional forces a decisive penetration capability that they would

not otherwise have, without having to resort to nuclear arms. The race to instal intermediate range missiles in Europe only helps to increase the capability to kill several times over: "What is important is not to fight for a few hundred more or having fewer missiles, but to see to it that the conditions under which they would have to be used never arise".

While this diagnosis reflects issues and doubts that periodically come to the surface in the debate on strategy, the treatment the author proposes for France does not seem to be particularly original: to use long-term servicemen to develop a strategic deterrent nuclear force and a rapid deployment force (for external intervention); to entrust border defences to a "manoeuvre force" that can be mobilized in a matter of hours, heliborne and equipped with tactical neutron weapons to be used solely within French territory and solely for defensive purposes. Lastly, the "Internal Armed Forces" (mobilized in emergency) would have the task of fighting off an invasion using tactics that are typical of guerrilla warfare. It is hardly necessary to point out that compulsory military service would be reduced to a few weeks, with periodical recalls. A "contaminatio", therefore, between old, contrasting, historical motives that have emerged during the 50-year debate that has been taking place in France and in Europe. Leaving aside the changes that have occurred in the material sector (the new weapon, in Copel's view, is the helicopter and no longer the tank on which defence is primarily based, together with fixed wing aircraft), these ideas have much of De Gaulle's thinking about them (or even Bencienga, or Van Seeckt...). But alongside these advocates of an "élite force", stand Jaurès and Marazzi, too. It is the idea of

the Swiss-type "militia army" that the author explicitly refers to, using arguments that remind one of General Fortunato Marazzi where he stresses its cost-effectiveness, without taking account of the fact that organic models are not easily applicable abroad. What the author is advocating is a comprehensive project, that is not without its contradictions and shortcomings (for example, his cost calculation could have been less vague), but it does have the merit of looking beyond French borders to make a useful contribution to the difficult strategic and ordnance choices that have to be made in the future. Decision-makers will have to take account of the two underlying reasons for Copel's book: Europe must have a greater political/military role, and the continent must have a defence project that is able to do without ruinous absolutist alternatives, and hence be sufficiently credible to be able to attract the consensus that it will undoubtedly need.

Ferruccio Botti

J. Alford: "Arms Control and European Security". 1984, 147 pp.

This book is one of a series of publications by the London-based Institute for Strategic Studies, containing collections of the Institute's most important essays and articles.

The subject is fundamental to European security, and touches on the very essence of the relationship between deterrence and détente, which the 1968 Harmel Report showed to be wholly compatible. But this compatibility has turned out to be the rationalization of a desire, rather than a reality. Détente is only possible when both parties really want

it and pursue it in the same way. In other words, it presupposes that the Soviet Union really does accept the status quo, which means accepting the US policy of containment, and renounces expansionism. This could never happen, and has not happened, partly because of the fact that Europe's and the United States' interests and perceptions have been at variance. His history of "arms control", which is the practical application of the *détente* policy in the security field, reveals all the dilemmas in the posture of a politically fragmented Europe, incapable of adjusting to the new geopolitical dimensions (which would require a review of the old concept of nation-State sovereignty and the drafting of a single security policy) and of paying the economic and social price of adequately upgrading its strategy in the broadest sense of the term, and not merely in the military field. These differing approaches to managing deterrence and *détente* have heightened the contrasts within the Alliance. Deterrence has been managed collectively within NATO, led by the United States, while *détente* has been managed by individual countries of the Alliance, often under the impulse of contingent factors, including (perhaps mainly) domestic policy considerations. As a result of this, security strategy has been dissociated from arms control, whereas it should be a component part of it. The authors examine the attempts that have been made to negotiate arms control, and the reasons for the present crisis stemming from the increased tension that exists between the two superpowers, the way in which the "regional" approach of the European countries can be reconciled with the "global" approach taken by the United States and the Soviet Union, the technical procedures for overcoming the deadlock that exists in certain

areas, and the future prospects for arms control and European security.

The conclusion reached by the authors is basically this: there are two alternatives, unless the arms control negotiations fail completely and we return to the traditional power policy. The first is to maintain the present situation which will lead to a confrontation between the two superpowers or to another Yalta, which would be damaging, if not disastrous, for Europe. The second alternative is for the Europeans to become fully aware of their need for security and to face up to the social and economic burden that this entails. Only by so doing can they remain credible, and make their particular interests stick in their dealings with the superpowers, and above all consolidate the Atlantic Alliance on new, better balanced bases that will induce the Soviet Union to negotiate seriously. The present situation is favourable to the Soviet Union. Not only are the tensions in the Alliance increasing, but public opinion in the West is weakening in its support for the present collective security system. Since the Soviet Union can hope to win without fighting, it can see no particular reason for negotiating.

Carlo Jean

Ruggero Orfei: "Pace tra i missili e fame". Ed. Dehoniane, Naples, 1983, 256 pp.

It has often been said that one of the most worrying phenomena in the present age of the "balance of terror" is the way in which people's consciences and initiatives have been paralyzed by being over-awed by the power of the bomb, which some see as a source of destruction and

others consider to be the ultimate guarantor of peace. This makes it extremely difficult to confer credibility on alternative hypotheses and hence to try out new forms of coexistence and progress.

Furthermore, the political and social structures everywhere are suffering from a widespread, disarming sense of impotence to attain positive growth other than antagonistically.

The primary, and perhaps the major, merit of Ruggero Orfei's book is that he has tried to suggest a way to beat off not only indifference and fatalism, but also the equally dangerous facile utopianism of those who close their eyes to reality and ignore the serious constraints that exist domestically and internationally.

His approach may be fairly defined as "Catholic-humanistic": the reader senses both the tension of the practising Christian acting to bring about the "prophecy of peace" and his genuine faith in the creative capacity of Western civilization to revise errors and to optimize the existing development tools, provided that the internal contradictions that are presently hampering them or misdirecting their development are first resolved. And one of what he calls "the left-overs of a primitive civilization" that has to be done away with its militarism, in the sense of being a war-culture on which the concept of "deterrence" is based, with over-reliance on weapons and setting too little store by discussion and mutual understanding.

Yet the means of restoring the balance are – necessarily – inherent in the complex spiritual and intellectual heritage that the Western world has built up over the centuries; what we have to do is to use the resources of this heritage and redirect them. What the author is attempting here is therefore to reconcile the

past and the future into a consistent whole, by spelling out the need to adopt new, well-proven methods for solving our problems.

The "peace strategy" must use a methodology and a praxis which are not dissimilar to those of "war strategy": the goals must be clearly identified, and there must be a plan that will lead to the kind of peace that is not simply the absence of war. Consequently, the whole concept of security needs rethinking. Today, it is essentially associated with military measures, but greater attention must be paid to man, to broaden his conscience and awareness, and his capacity to live through the fast-moving changes of our age with a constructive spirit, avoiding the facile and illusory refuge offered to him by ideas that may be solidly built on bases that are no longer solid, and subsequently turn out to be too narrow and too inadequate to stand up to the challenges of the future.

The "genesis" project – as the author defines it – stands for a complete reconversion from the military to the civilian world (in cultural, economic and industrial terms) which he sees as being the only way of ensuring that the peace culture of the future is irreversible.

His analysis and predictions might – and indeed, do – give rise to many questions and doubts. The first of these, which no-one can evade, is what would be the East's attitude to a different type of confrontation, played using new rules that may be seen as highly destabilizing to a major power, much of whose strength comes from harping on the hypothetical external threat. Another question he raises is what concept of security should replace the idea of "national military security", and above all, what guarantees are there? All of this certainly deserves

very careful thought, requires a great deal of commitment, and reveals his desire to ensure that reason prevails over all. In other words, one has to avoid being carried away by "great" ideas and having "everything at once", which often leads people to overlook the usefulness of a step-by-step approach to permanently changing situations and induces them to take up unrealistic attitudes about possible future situations that do not yet exist, and which still have to be verified.

Sandro Fantina

G.A. Craig: "Il potere delle armi - Storia e politica dell'esercito prussiano 1640-1945". Il Mulino, Bologna, 1984, 588 pp.

Yet another, albeit well-written, example of "outer" history, by which I mean one that is mainly concerned with relations between the military and politicians, and between military institutions and civilian society in the country which has been considered a "sample" for over a century in the military field.

Gordon A. Craig's book suffers from two main limitations. It is not so much about "history" (which, in the usual sense of the term, cannot ignore the "internal", technical dimension of a military institution) of the Prussian Army, as an account of its policy; and secondly, perhaps because it was published very shortly after WWII (in 1955), it often indulges in rather dogmatic judgements which might give the reader the impression that certain phenomena that arise in the relationship between the military and society – and particularly between militarism and nationalism – are typically German features alone.

There is no doubt that there has been a pretty general tendency

throughout Europe at various times in its history, and in varying degrees and forms, for the military to have a privileged relationship with their Sovereign and to restrict the power of parliament and (not only in WWI) to have a completely free hand on the conduct of operations, despite the key idea of Clausewitz that war is an object and a continuation of politics, and not a subject (as Ludendorff would have it).

Craig makes no bones about his position in the introduction. He has no doubt that the political life of modern Germany and the way it acts has been authoritarian, militaristic and aggressive. He says that the book is based on the assumption that these are not inherent in German character but (as Franz Neumann has said) are the result of a structure that has thwarted every attempt to create a visible democracy. But this is something that remains to be proven, because it is not necessarily true to say that the level of social progress and genuine democracy in Germany (at least in the 19th century) was in any way inferior to that of other countries. And to what extent did the demands of a great Empire and a huge fleet weigh on British domestic life?

The German writer Gerhard Ritter, in his book "The military and politics in modern Germany", which was published more or less at the same time (1954), takes a different view to Craig's. Ritter carries out a parallel enquiry into the main European armies at the turn of the century, and the French and British armies come out particularly badly (compared with the German army) from many points of view: the prevailing internal ethos, the moral cohesion between the officer corps and the rank and file, relations with civilian society, the "military condition" of the men in the lower

ranks. Ritter concludes thus, "If we want to summarize the difference between the military situation of the Western European powers and the German Empire in the 19th century, we might say that what the Western powers considered to be a necessary evil was deemed to be the supreme pride of the nation in the German Empire".

Craig's account – which is far less thorough than Ritter's – nevertheless has the merit of resurrecting three questions: how far was the German military institution (which was the only institution capable of containing Nazism for a time, and of trying to kill Hitler) the expression of

the German nation and the will of broad sections of German society? Was the traditional central position of the military caste in German society due to the prevarication of a few, or to specific national characteristics whose origins go back to the old Prussia? And lastly, apart from the repression, intrigues and absolutism of people like Ludendorf, Von Schlecher or the aggressive use of German military force, is there a part of the military tradition of old Prussia that should be studied and salvaged because it stands for certain values that are still universally valid (austerity, spirit of sacrifice, initiative, sense of re-

sponsibility, devotion to the State, care of one's soldiers, sense of honour)?

These are questions that can only be thoroughly answered with a history that is not based on "theses", and which is able to merge the internal, technical facts with the political-social facts, and above all, a history which takes a European approach to the problem that alone can give back to the military institutions their rightful role in each country, their rightful prospects and set them in their rightful light, without demonizing them and without rhetoric.

Ferruccio Botti

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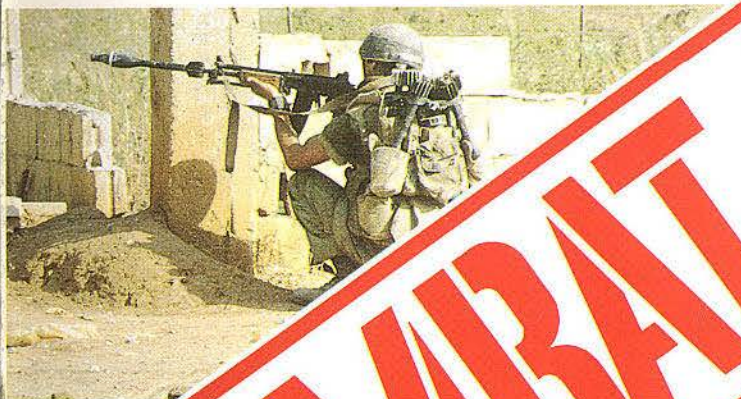
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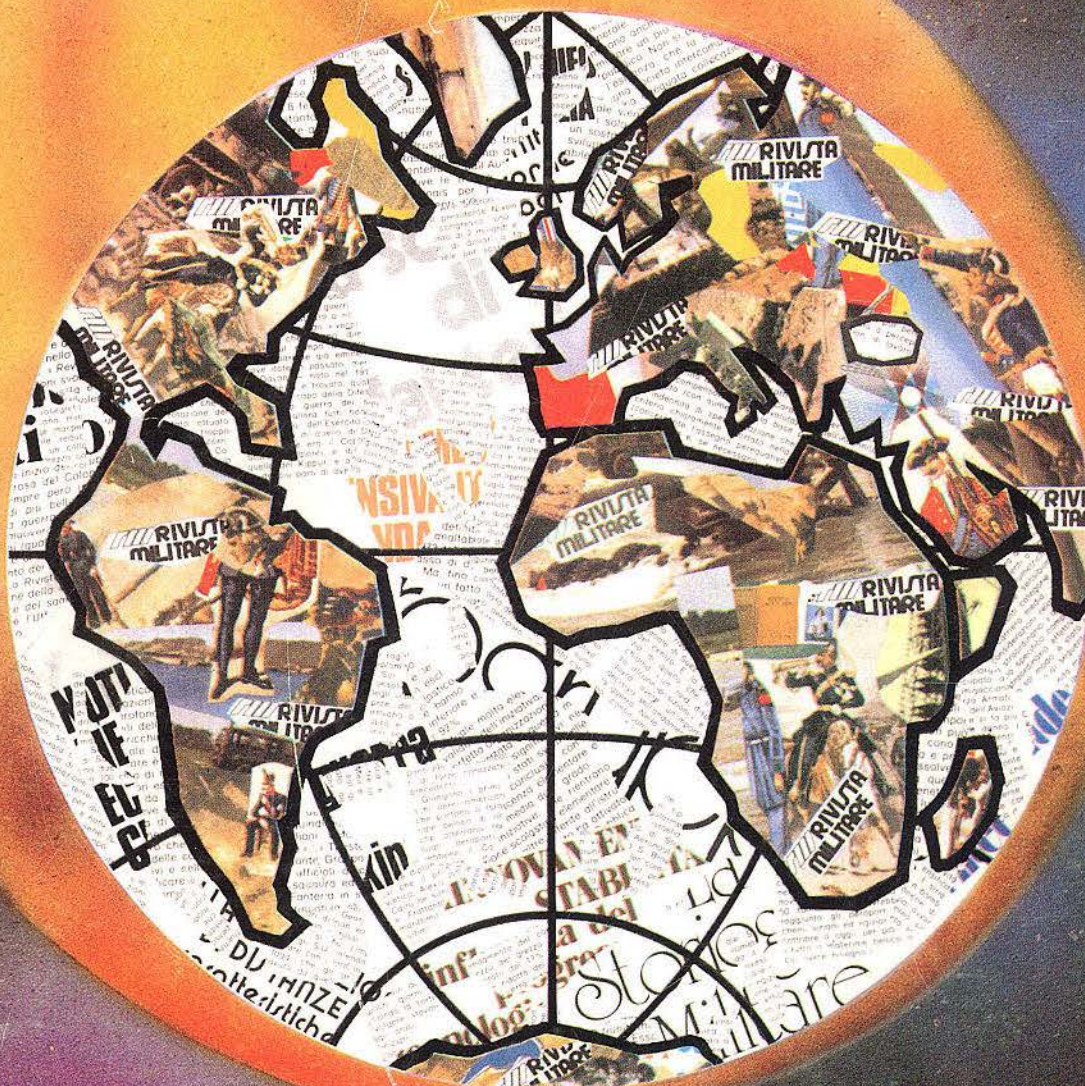


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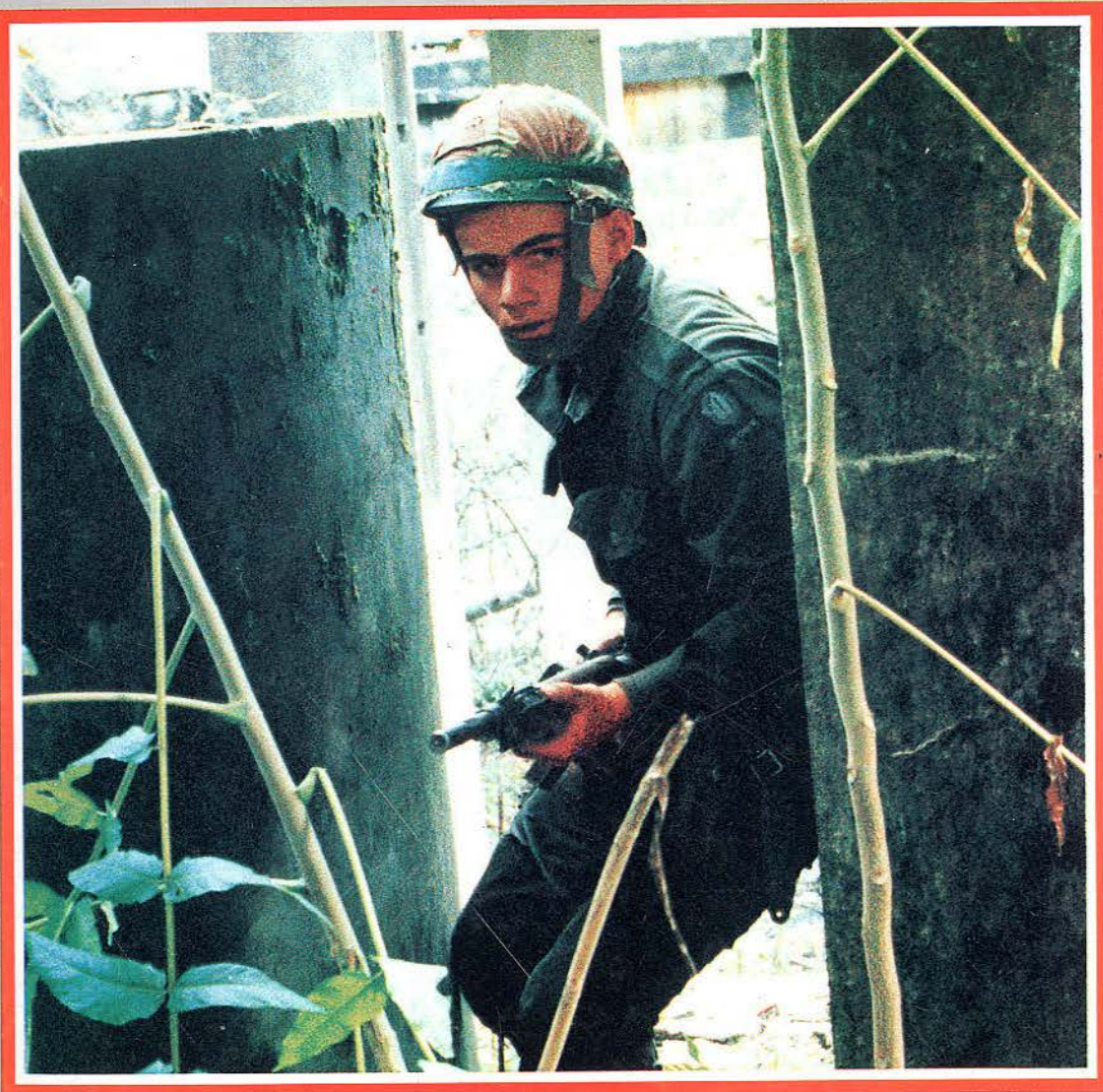
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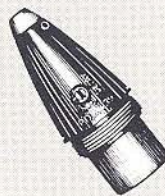
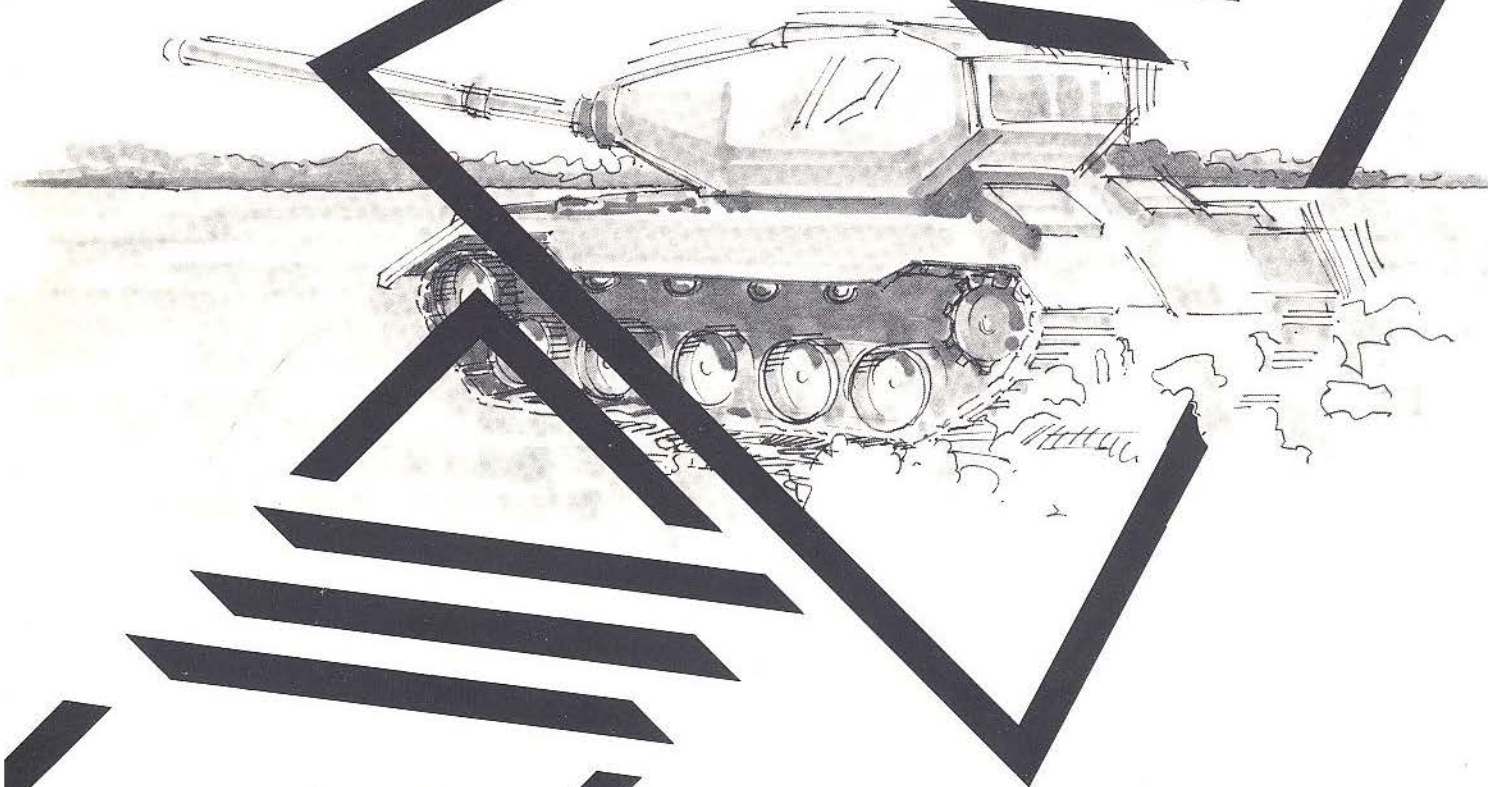
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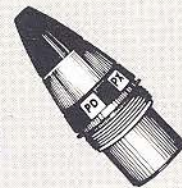
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CONTENTS



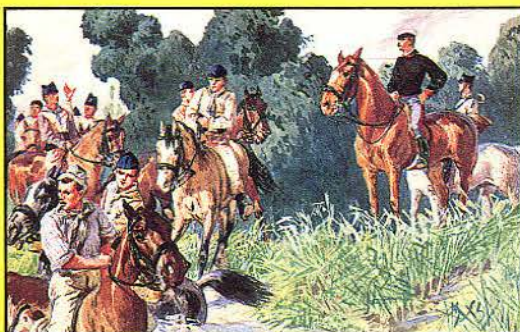
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The aim of the Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. The Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.



**Technological Progress
in the Military Component:
between Humanistic Culture
and Electronics.**
(Umberto Cappuzzo)

2



**Random Thoughts
on the Military Art
in Modern Warfare.**
(Ciro Di Martino)

11



**International Seminars
on Nuclear Warfare.**
(Antonino Zichichi)

19

Reforger 84.
(Pier Giorgio Franzosi)

24



The "Catrin" System.
(Antonio Viesti)

34

**Paratroops
and Counterinterdiction.**
(Giovanni Giostra)

44

**The Parameters
of the Choice of Armaments.**
(Luigi Salatiello)

54

Technical Data.

66

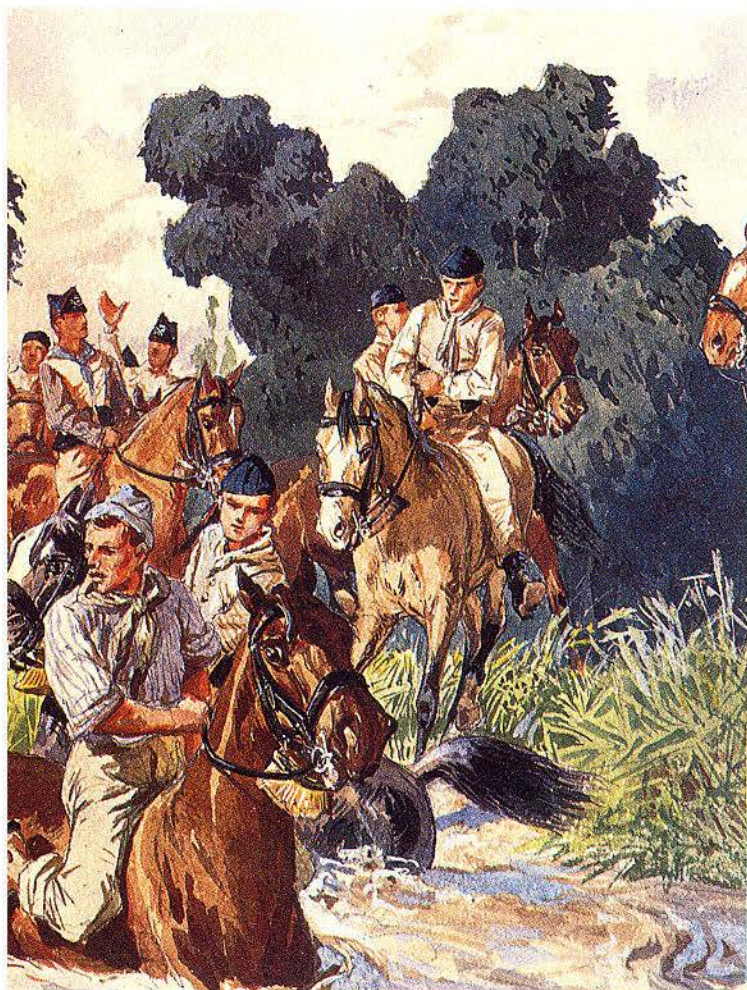
Book Reviews.

73

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TECHNOLOGICAL PROGRESS IN THE MILITARY COMPONENT

BETWEEN HUMANISTIC CULTURE AND ELECTRONICS



Great strides ahead have been made since the Crimean war (1853-1856) in which **electronics was used for the first time in the military sphere.**

Morse telegraphy played a major role in the conduct of the operations, massively increasing the armies' possibilities of acting and reacting by enabling them to communicate data and information promptly, and issue instructions and orders in all directions with great dispatch.

Since that time, an **innovation process** has been set in rapid motion, opening up ever vaster horizons in areas of fundamental importance to the command function.

The intimate linkage between the capacity to receive data and information through multiple sensors, to transmit whatever one wishes in real time, to store the intelligence received and process it according to predetermined programmes, and to communicate impulses for interventions in a wide variety of sectors – all this has given electronics, in the broadest sense of the term, a front-line role in determining the success of the military instrument.

As far as force-use is concerned, electronics rightly belongs with fire, movement and attack as an indispensable parameter in any modern approach to the classical principles of the art of warfare, particularly manoeuvre.

As far as personnel training, manpower and physical resource planning, and the study of the most efficiency-enhancing measures are concerned, electronics is not only a new methodology with enormous and unprecedented potential, but it is turning the classical approach on its head, imposing a "new philosophy", based on the rationale of the constant monitoring of effort versus performance, risk versus results, cost versus benefits.

Electronics is the absolute conditioning factor of technological evolution, and is opening up extremely exciting prospects, and challenges, that cannot be ignored.

The fact is that we are in the thick of a process of change that is perhaps without parallel in the history of mankind, and which is leading to the optimization of man's capabilities in the areas of design, conduct and management, information, education, as well as both command and control techniques.

It is a process that has military ramifications, extending to every area (strategic, operational, tactical, logistic, ordnance, training), each with its own particular features; but it is a process with economic, political and social ramifications as well, and it therefore affects the major choices that have to be made in these areas too, in the quest for security.

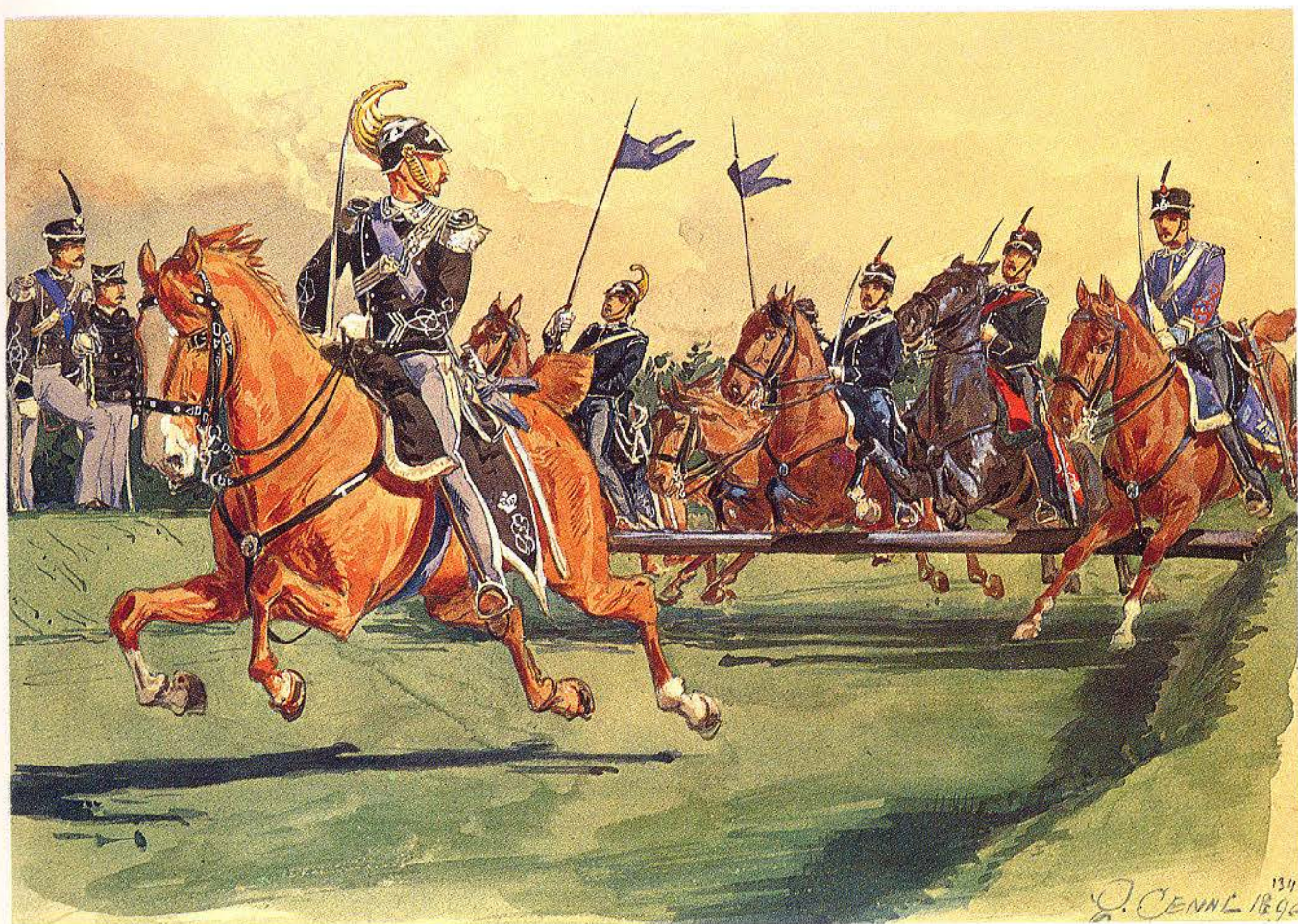
Electronics-based technological development is a fully fledged **"revolution"**, whose consequences have perhaps not yet been fully appraised.

Without looking any further than **Information Technology** for the moment, the fields of

It is beyond the scope of this paper to enter the realms of "telematics" or remote processing, robotics, and the vast area of the so-called "emergent technologies". But the facilities that are already available worldwide today are a clear indication of where this is leading, and the way the future is shaping up.

We can get an inkling of this by looking at a few of the **most outstanding achievements** to date:

- all-weather sensors, already in their 3rd and 4th generations;
- broad-band modulation techniques, which are



application in the Army alone already comprise:

- the whole machinery of command, control and coordination;
- personnel, materials and financial management;
- training specialists and experts by resorting increasingly to simulation techniques, in a wide range of areas from individual or group trainers, to war games;
- analyzing the underlying trends of all our activity in order to be able to act promptly, to take corrective action, to modify or to clear the way ahead.

highly resistant to enemy countermeasures;

- facilities for processing, correlating and displaying data used for decision-making by the Commander;
- facilities for the rapid dispatch of orders in "real time";
- facilities for comparing situational data (one's own, and the enemy's, situation);
- facilities for taking diversionary actions, capable of spoofing highly sophisticated systems, and hence confuse the enemy;
- so-called "smart" devices, able to seek, identify,



calculate and automatically take elementary decisions, although only to the extent that man has programmed them to do so.

All this exists already. Looking further ahead, and in greater depth, we can already identify **new needs** and **increased possibilities**.

The **"technological revolution"**, as I hinted at earlier, is bringing about a **"military revolution"** in the full sense of the term. Everything is happening in a cyclical fashion, in which armies are becoming established as the expression of the society they represent, and at the same time, as the locomotive force behind that society's progress, as has always been the case throughout history.

With its vast array of applications, electronics has unleashed man's capacity to collect and collate data, to meet virtually all the needs of decision-makers in so many different areas of the military sphere.

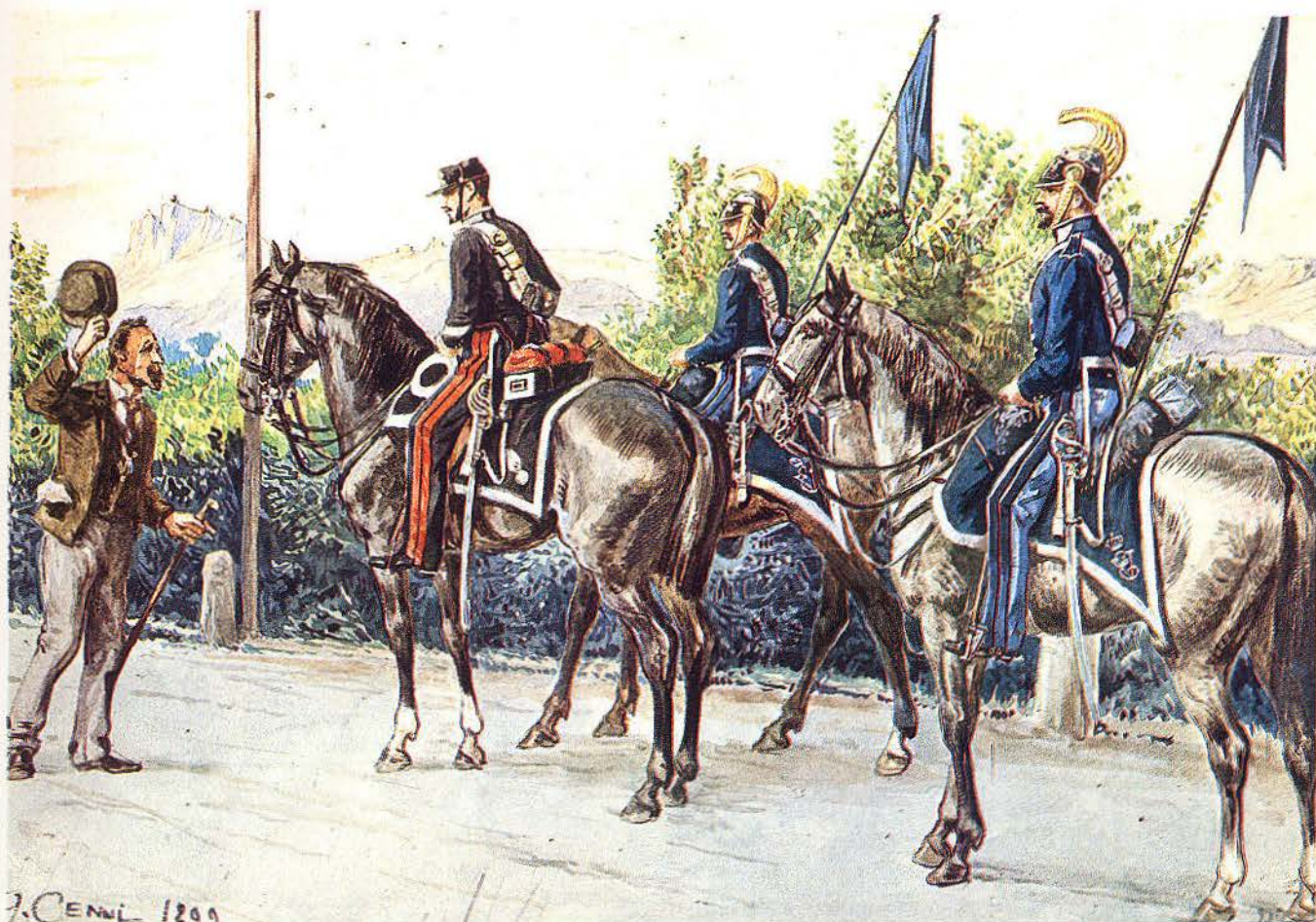
In **strategic terms**, the way that different sensors incorporated into a system are erasing the time and space barriers is decidedly slimming down the classical concept of **surprise**, while at the same time making the use of highly selective weapons employing sophisticated guidance systems extremely profitable, and giving a new

significance to the classical concepts of **concentration of effort** and **manoeuvre**.

There are two facts that we have to face up to, when considering war – which we have the constitutional duty not to ignore, even though our aim is to ensure peace – both of which are the product of our times:

- the first is the way in which the application of force has extended so widely that we can now speak of **"total war"**, signifying the involvement of all the economic, physical, human and spiritual resources of a nation. Today, it is not only strictly military targets that would be under threat in the event of war, but the whole production system, the civilian population and the country's nerve centres (the **"industrial age effect"**);
- the second is the abnormal increase in the incidence of force use as the result of the advent of nuclear weapons, with all the moral heart-searching and practical difficulties that any military intervention would entail (the **"advanced industrial age effect"**).

Now that we have nuclear weapons and all the previously accepted rules of warfare have been conceptually overridden, strategy is being seriously strained – as I have had occasion to



point out before; its deterrent function still holds good (but for how much longer?), as does its negative aspect of "not acting" and "preventing others from acting", and in creating fear, rather than actually resolving anything.

Moral constraints and paralysis are the factors which are hastening a process that is designed to find other outlets, and science and technology are offering useful indications as to the objectives that are appropriate to pursue.

The old concept of power is coupled with and compounded by the revised concept of capability, which electronics has materialized today. This will be the "post-industrial age effect".

I am still fascinated by a classical approach that has perhaps not yet had its day, and I sometimes wonder whether, in the not too distant future, we may witness a return to the past in a very particular way, with a physical conflict that will not be total war at all, but highly selective as a result of the emerging technologies – the latest product of a technological escalation that does not look remotely as if it is ever going to stop, making the present out of date very quickly.

And this occurs very rapidly in many ways, even materially speaking. Ageing is no longer just a question of time, and "obsolescence" sets

in when scientific and technological factors have had their day.

I am referring here to a conflict of a highly peculiar type of potential factors, which could be fitted into the framework of the "challenges" of old.

We are not far off from a development of this kind, according to the statements of leading spokesmen from the advanced industrial world, and particularly in the light of what President Reagan has been saying about the new frontiers of space, and the space umbrella to provide a shield against any enemy attack.

The conflict has been shifted into another dimension, with extra-terrestrial protagonists – namely, satellites launched by man – armed with laser beams and controlled by highly sophisticated computers. These computers could well be the Horatii and Curiatii of a not too-distant future.

Science fiction?

Far from it!

The enormous technical and scientific progress that is being made in the field of electronics, telematics, information technology, computer science and robotics is hastening the day in which any future conflict will be able to be fought vicariously by smart devices and systems.

The triumph of reason?

Perhaps. But there are limits. However noble the attempt to seek out methods and tools for preventing disaster – which is looming large with the advent of nuclear weapons – the technological solution appears to be highly problematical.

Not because of any lack of confidence in the soundness of the systems themselves, but because of the fear of the effect they might have on man's capacity to participate and mediate.

As ever, we come back again to man, not out of a dutiful tribute to rhetoric but precisely because the cornerstone of the historical development of our planet and the progress of our societies in attaining their ends on this planet, is and always has been, man himself.

The technological challenge is a fact, and cannot be ignored. I would go even further than that: it must not be ignored, unless we are to take our leave of a world that is moving ahead, a world that matters.

And the Armed Forces are playing their part, with conviction and authority, establishing themselves as key elements at the national level, and convinced advocates of playing a distinguished role in the broadest context of international cooperation, particularly in the Alliance.

One of the Army's most advanced programmes that deserves particular mention here is the "CATRIN" programme – an emblematic expression of a 360° research project using the very latest electronics technology to build an integrated control and command system, comprising battlefield surveillance, data processing for decision-making purposes, and the allied multiple communications network.

This programme is designed for defensive purpose, and one can easily see the beneficial fallout it will have on the whole community.

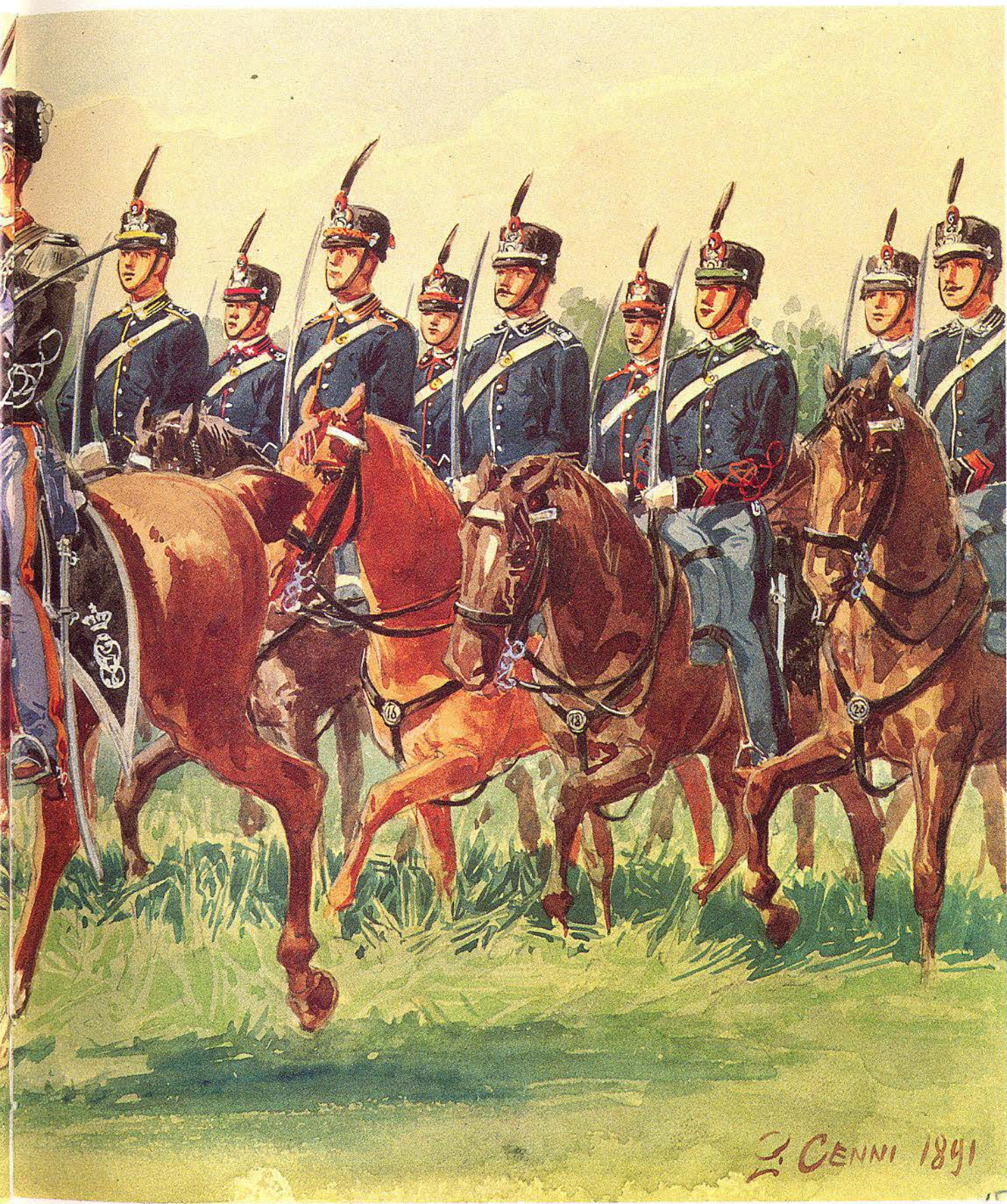
The technology challenge has to be taken up, then, if we are to keep pace with the times and make our military instrument more efficient and more credible, while bearing in mind that this challenge directly affects man, above and beyond any operational or productive considerations.

It is a crucial problem for the Armed Forces which have always appealed to man's highest moral values, and which therefore attribute to the human element a wholly particular function and role.

As I was saying, the technology challenge directly affects man: it affects his very being, and bears on his education, his moral fibre, and the very essence of command.

This is occurring at a very delicate time, when principles and values are being relentlessly revised and decanted, dangerously increasing the vulnerability of contemporary man who is being increasingly beset by doubts and uncertainties.







In the event of some future conflict – which certainly we do not want, but which we have the institutional duty to prepare for – let us never forget that the technologies that are being incorporated into the military instrument are increasingly distancing man – their user – from his enemy, who has to feel the full effect of the weapon.

This could lead to aberrations: either the lack of human contact will dehumanize the conflict to the point that it will become extremely easy to press the famous button, or, by limiting the scope of the struggle to a purely mechanical level, it will deprive man of that drive inspired by his ideals and moral tension that make him able to react positively to all situations, however arduous.

The two extremes, then, are deliberate folly or indifference; falling prey to a game that is bigger than us, or becoming totally apathetic about a trial of strength that does not concern us.

Looking at this issue in even broader terms ranging far beyond the actual confrontation with an adversary, the advent of the technologies that hinge around the “computer philosophy” gives substance to the risk that responsibilities might be increasingly left to the few who design the programmes rather than to the many who have to carry them through.

There is the danger that the latter may cease to be agents, and become mere tools, deprived of the possibility of making an intellectual contribution to events, and relegated to the level of merely knob-turners or button-pushers.

The consequences are obvious.

One wonders whether the outcome of this process might not be a new kind of dictatorship, since all those who are capable of acting on the software play a preeminent role over the huge numbers of users, and could eventually manipulate their wills if the system were to go haywire.

Without wishing to dwell on this particular aspect of the question, which I am only mentioning for the sake of completion, I should like to address the new responsibilities that are arising in the field of command techniques.

In a structure based on the principle of “conscious participation” to complement the hierarchical relationship, how can this participation continue to be genuine when any action performed is merely mechanical, without requiring any conscious choice?

What kind of discipline is therefore required now that the command function is being performed by apparently disconnected units, composed of individuals performing different duties, whose dialogue is purely and simply with the machine which



they are required to use?

As you can see, it is the end of an era. And we are on the threshold of a new age.

It is imperative for those with command or leadership responsibilities to anticipate events.

This is even more true in the case of the military.

The "technology revolution" has already broken out, and its effects are being felt. It has to be directed, or it will direct us.

Thanks to electronics, in an extremely short space of time we can now gather a mass of data and intelligence that would previously have taken us more than a single lifetime to collect.

Data and information that can be used with any formula that human intelligence is capable of designing.

It may be the triumph of reason, and in the military's case, it may be the triumph of rationalizing the strategic relationship, eliminating calculating errors and surprises.

If this is the case – and I hope it is – then the triumph of technology will have beneficial spinoffs in the quest for progress and peace.

It is a demonstration of wisdom when one manages successfully to merge the great achievements of a humanistic culture, which has still a great future ahead, with the no less great achievements

of a scientific culture, which has been, and still is, one of the motive forces behind today's material progress.

Philosophy and law are no longer sufficient – in themselves – except to establish principles, ideas and values and, in a more practical way, they underpin a whole set of disciplines relating to the vast area of science and technology by defining organizational and production structures. And electronics has its part to play in this ambit.

Its part has to be appraised in terms that do not preclude the original contributions that individuals can make or offer.

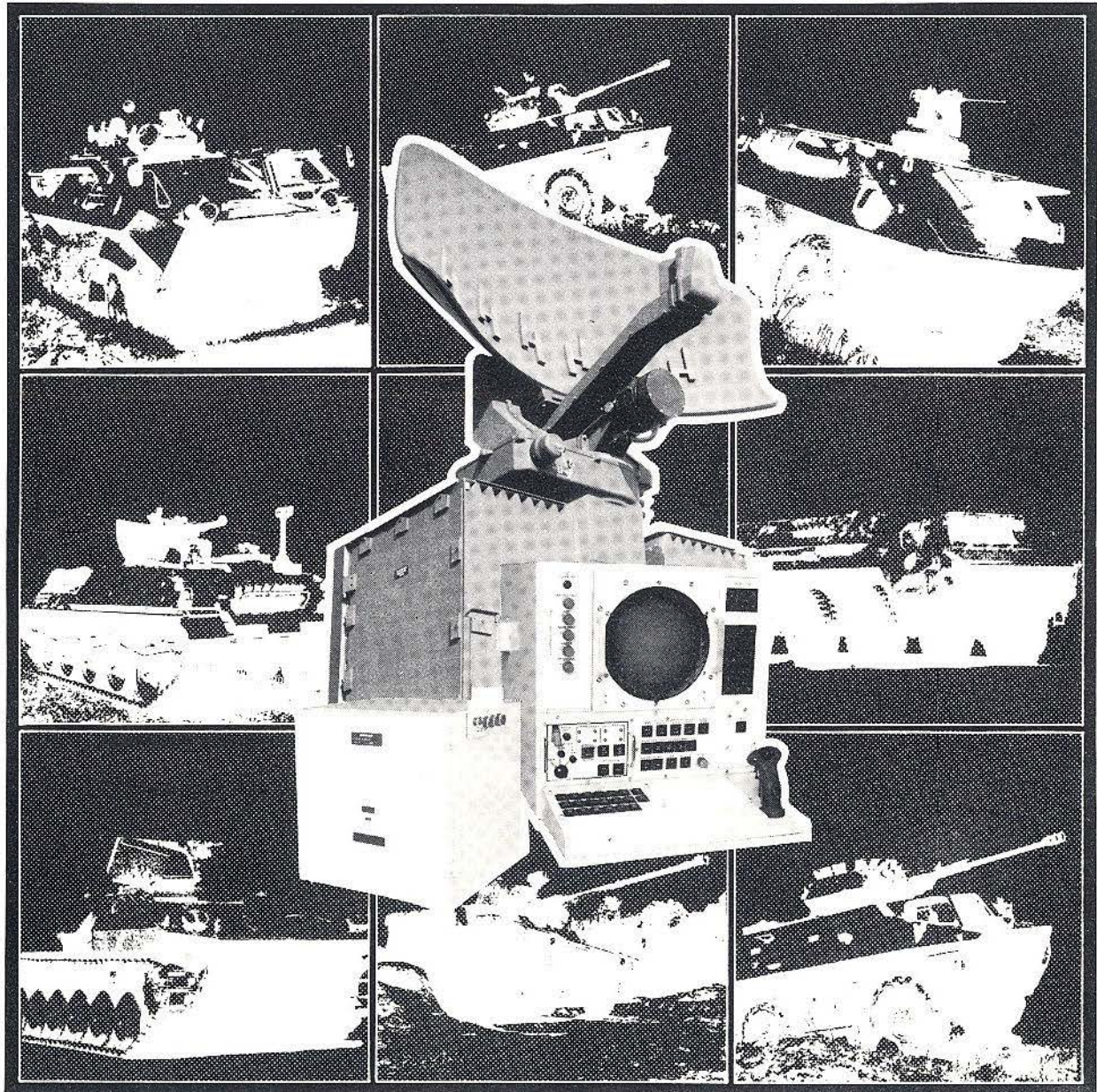
Basically, and without in the least wishing to denigrate a development process whose rationale is the search for enhanced efficiency, productivity and prosperity, I would like to express the hope that the storage capacity of these collective memories managed outside of ourselves, which take away the pleasure of subjective selection, will not eventually lead to restricting our freedom.

Apart from the rigorous "mechanics" of strictly operational or productive actions, and speaking purely in terms of human sentiment... I think that, basically, it is a fine thing... sometimes... not to know, and it is perhaps even better to be able to forget.

Umberto Cappuzzo

SHORAR

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RANDOM THOUGHTS
ON THE MILITARY ART
IN

MODERN WARFARE

Handwritten signature

RANDOM THOUGHTS ON THE MILITARY ART IN MODERN WARFARE

To apply the classical concepts of the military art to the contemporary context, one has to approach the question strictly in terms of the far-reaching technological, social and economic changes that have modified, and sometimes overwhelmed, the "states" and "situations" that have been established across the centuries, and which are no longer acceptable in the light of a process that is continually gathering momentum, with as yet unforeseeable consequences.

The traditional conceptual parameters that have been codified and consolidated, at least in part, by practical experience, are being "naturally" eroded by events, and are losing their efficacy when measured up against the newly emerging problems created by the prospect of warfare in a highly technologically-conditioned environment.

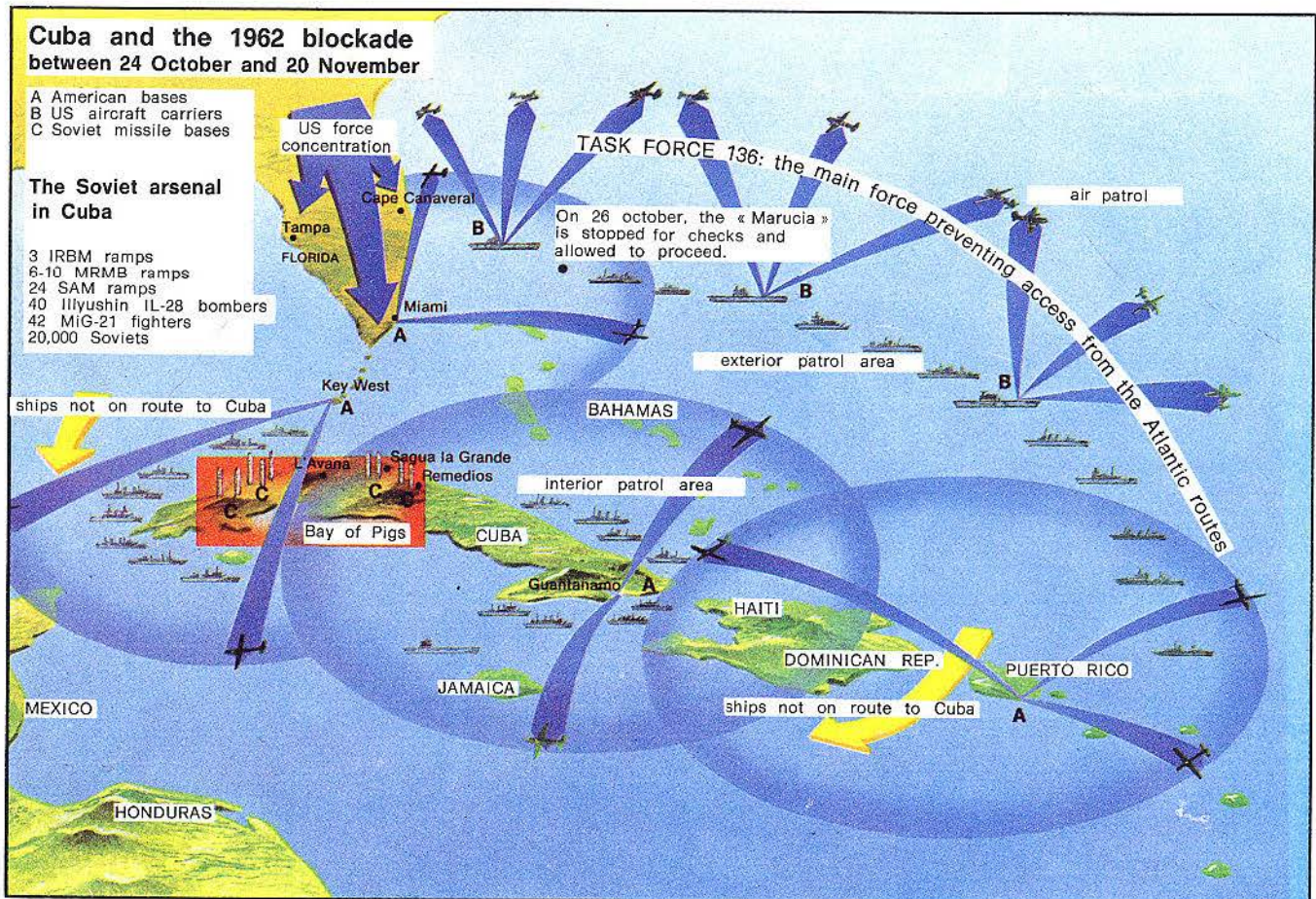
This is one of the features of the forms that warfare takes in any age, and which are continually overtaken by technological progress.

Advances in technology make it necessary to search tirelessly for criteria and methods to meet contemporary needs,

and this will apply even more so in the future.

The leaders of the main industrial and military powers are well aware of this, and one of them recently said that: "technological espionage is one of the most effective and productive operations in our history".

Consequently, there is a continual clash between physical force and intellectual resources, in which the former constitutes the frontline of a national developmental process, while the latter are seen as immutable terms in a code that is tenaciously anchored to concepts deemed to be fundamental.



THE 1962 CUBA BLOCKADE

This is a good example of the application of the *will/initiative* principle, demonstrating the capability of controlling events.

During the Cuban crisis, the United States' will, translated into initiative, was the decisive factor to the

success of the operation.

Without hesitating, the strategic forces were placed on alert and preparations for the attack were made. It was decided to set up a "quarantine zone" around the whole island, patrolled by the United States fleet, making it clear that any Soviet ships carrying offensive war material would be sunk.

if they failed to withdraw when ordered to do so.

The critical moment occurred on 24 October 1962 when a group of Soviet ships carrying missiles to be installed in Cuba made contact with the American fleet.

The Soviet leadership decided to re-route the convoy and turn back.

because they stand above and beyond any changes, however incisive, made to the "instruments".

Military doctrine, which has to take account of the progress made in scientific research, must necessarily go along the paths indicated by the continually changing times, but it cannot ignore the fundamental principles that give form and substance to individual hypotheses, verifying their validity. These principles are solid pillars, giving form to the theories and criteria, which in turn guarantee their efficacy and confirm their viability.

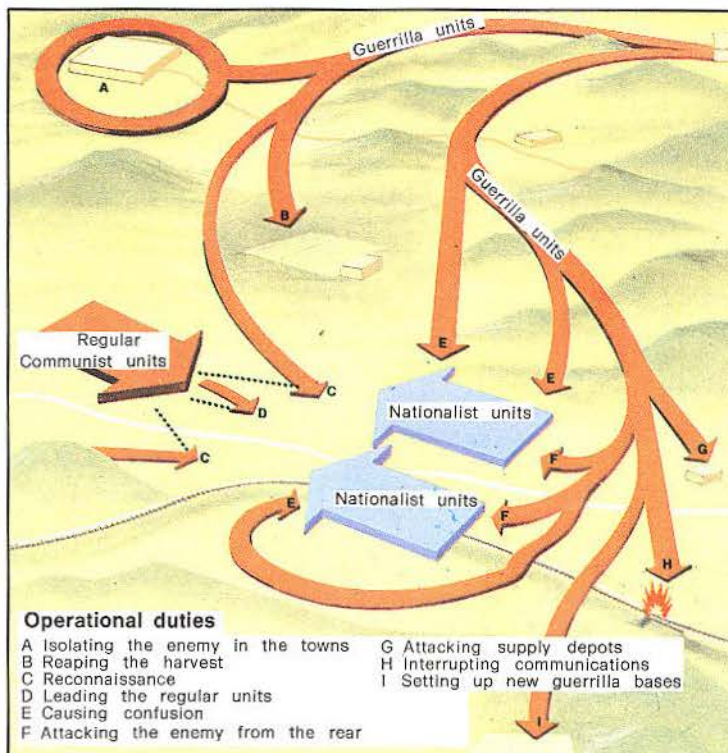
Abstract forecasts are all the more likely to come true when they are backed by the fact that they are in tune with these cardinal principles, which do not preclude innovation and insight, but rather show the need for them.

It is therefore useful to carefully define the basic components of the doctrine, which may be summed up as:

- **principles:** the immutable elements on which every operational theory must necessarily draw;
- **concepts:** the particular ways of programming and organizing operations;
- **criteria:** the general ways of implementing the principles;
- **procedures:** coordinating the implementation phases according to the predetermined courses of action.

Scholars have sometimes tried to identify new principles, on the assumption that in addition to the elements that are common to all forms of operations and which are untouchable, there may be new ones that have developed with time.

According to this assumption, only four "benchmarks" seem to meet this requirement. Nevertheless, the work being done by scholars in this field is still valuable, insofar as it is the expression of theoretical doctrinal research that can open up new frontiers in a difficult subject area which is often hard to assess and certainly in need of further research.



Guerrilla warfare tactics devised by Mao and successfully used between 1920 and 1940

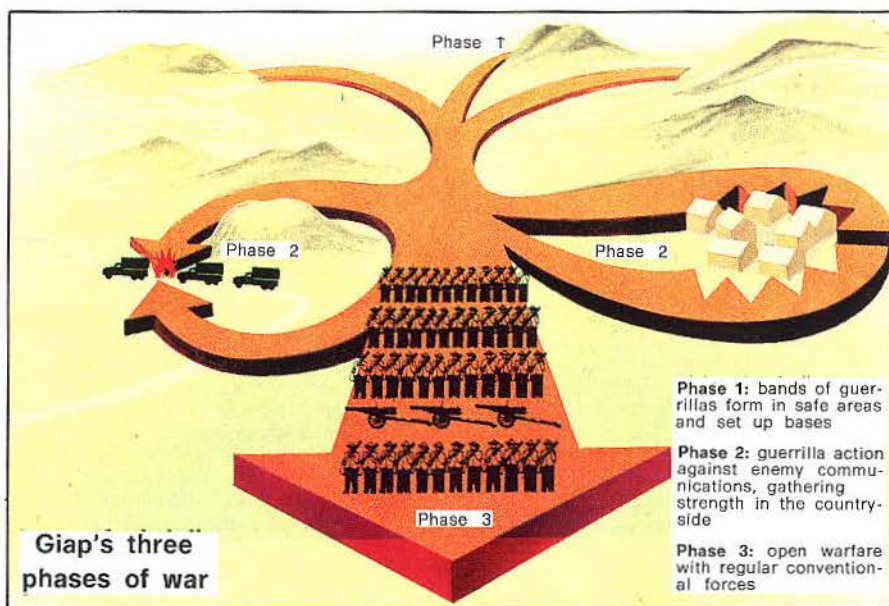
INDOCHINA 1946-1954

Mao was Ho Chi Min's and Vo Nguyen Giap's mentor on the theory of revolutionary war, and to understand the reasons for the success of the Vietminh in Indochina against the superior French fire power, one has to understand Mao's theories.

His main tenet was that the revolutionary must mobilize the people's political will, pursuing the struggle through initiatives illustrated in the 3 phases shown below. The French did not grasp the importance of the

will/initiative principle followed by the Vietminh, and believed that military superiority was sufficient to deal with the guerrilla offensive.

The main reason for the French defeat was that they had to deal with a new type of unconventional warfare for which the French units were not trained. They believed that holding the territory and superior fire power were adequate for success, and were unable to apply the principle of will/initiative as effectively as the enemy.



The four perennial parameters to which one must necessarily refer are: will/initiative, concentration of effort, freedom of action, and economy of force.

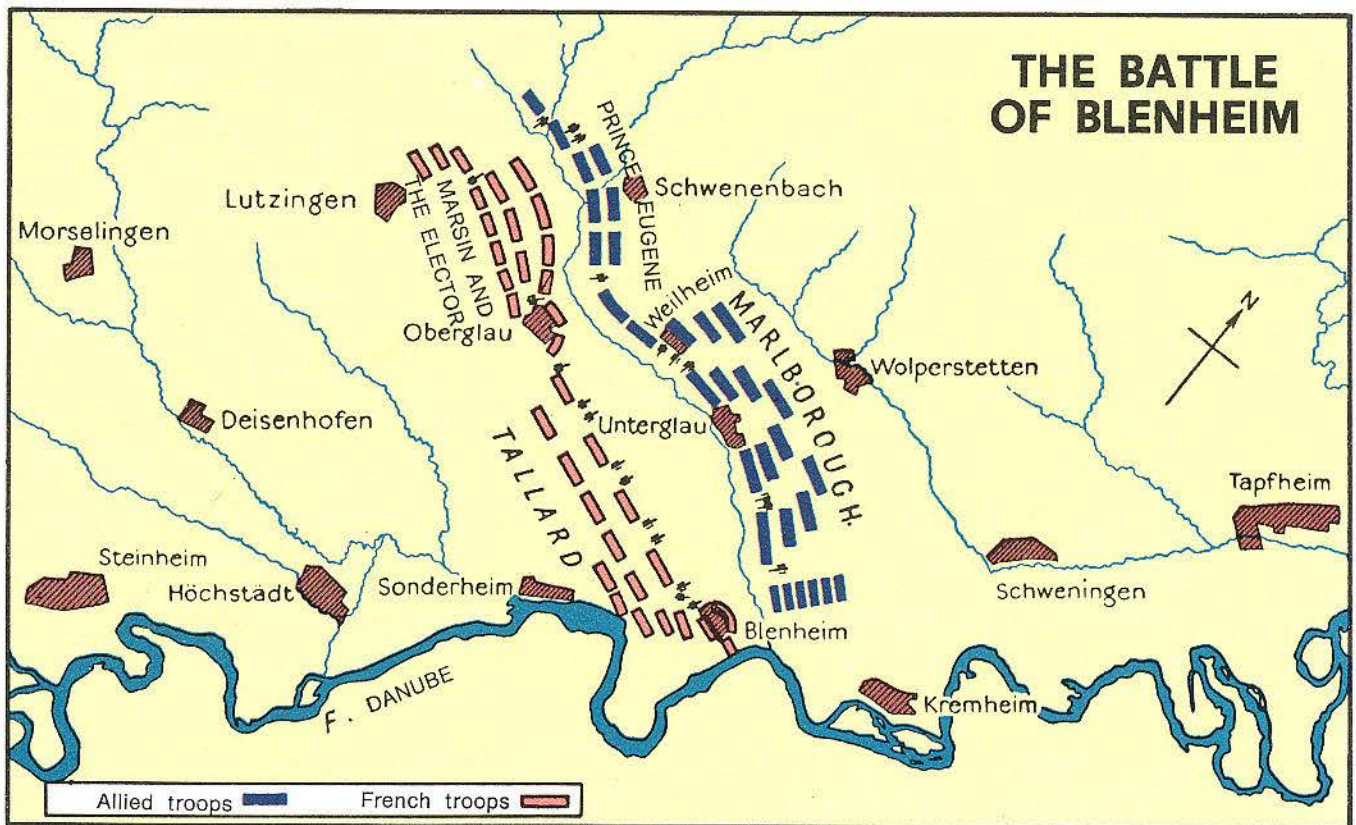
These can be found especially in the French tradition, but they have now gained currency in the most commonly accepted warfare "philosophies" today, because of the breadth of their application and the flexibility they possess, so that they can be adapted to various national and infranational theories.

WILL/INITIATIVE

"Will/initiative" consists in the capacity to resist any tendency to allow oneself to be overtaken by events, and is therefore decisive to the possibility of implementing the other principles. This therefore precludes any conditioning factors that may be very strongly felt in modern warfare, as a result of the situations relating both to material supplies and to sudden, unpredictable changes in the operational environment.

The possibilities and probabilities of success are largely correlated to the capacity to keep the morale and intellectual tension high, for these determine the will and the initiative, as aspects of the decision-making dynamism and the real control over any situation.

In modern warfare, this "faculty" must necessarily exist at every hierarchical level, in view of the way in which commanders' autonomy is being extended, as distances shrink and action/



THE APPLICATION OF THE PRINCIPLES OF WARFARE TO THE BATTLES OF THE 17th AND 18th CENTURIES

Failure to apply the principle of freedom of action in the wars of the 17th and 18th centuries led to the mortifying execution of "movements and counter-movements, marches and counter-marches, feints and counter-feints, which were costly, unproductive and slow".

Typical examples of this mentality were the battles of Blenheim and Oudenaarde.

THE BATTLE OF BLENHEIM

The Battle of Blenheim took place during the War of the Spanish Succession in 1704 on the left bank of the Danube, near the Bavarian village of Blenheim (now Blindheim). The Franco-Bavarian troops under Marshals Tallard and Marsin, and the Elector of Bavaria, Maximilian, faced the Allied armies (Austrian, German, English, Dutch and Danish) under the Duke of Marlborough and Prince Eugene of Savoy.

Marlborough and Eugene attacked at first light on 13 August. The Franco-Bavarian troops, which outnumbered the Allies, had formidable artillery power and their defensive action was helped by the marshland around the Nebelbach. Eugene commanded the right flank, and Marlborough the left flank and centre.

The attack on the village of Blenheim was repulsed, and for several hours the outcome was uncertain. But at about half past five in the afternoon, Marlborough manoeuvred his forces and crossed the Nebelbach, smashing through Tallard's centre which had been weakened to reinforce flanks, with 80 cavalry squads supported by infantry and artillery. The enemy light cavalry was split apart, and the Allies were able to defeat the infantry and outflank the bulk of the French troops, who had massed in the village of Blenheim. At sunset, the remnants of the Franco-Bavarian Army fled into the Black Forest, retreating towards the Upper Rhine. One third of the two armies lost their lives in the battle, and the Allies took 13,000 prisoners.

reaction times become shorter.

Planning and programming must make reasonable allowances for this, but must not *a priori* exclude the random events that lie on the borderlines of the hypothesis.

This means reappraising the value of man as the kingpin of events, with supremacy that is quite rightly bestowed on him through will translated into initiative, which does not contradict the preestablished principles, but helps to attain their objectives.

CONCENTRATION OF EFFORT

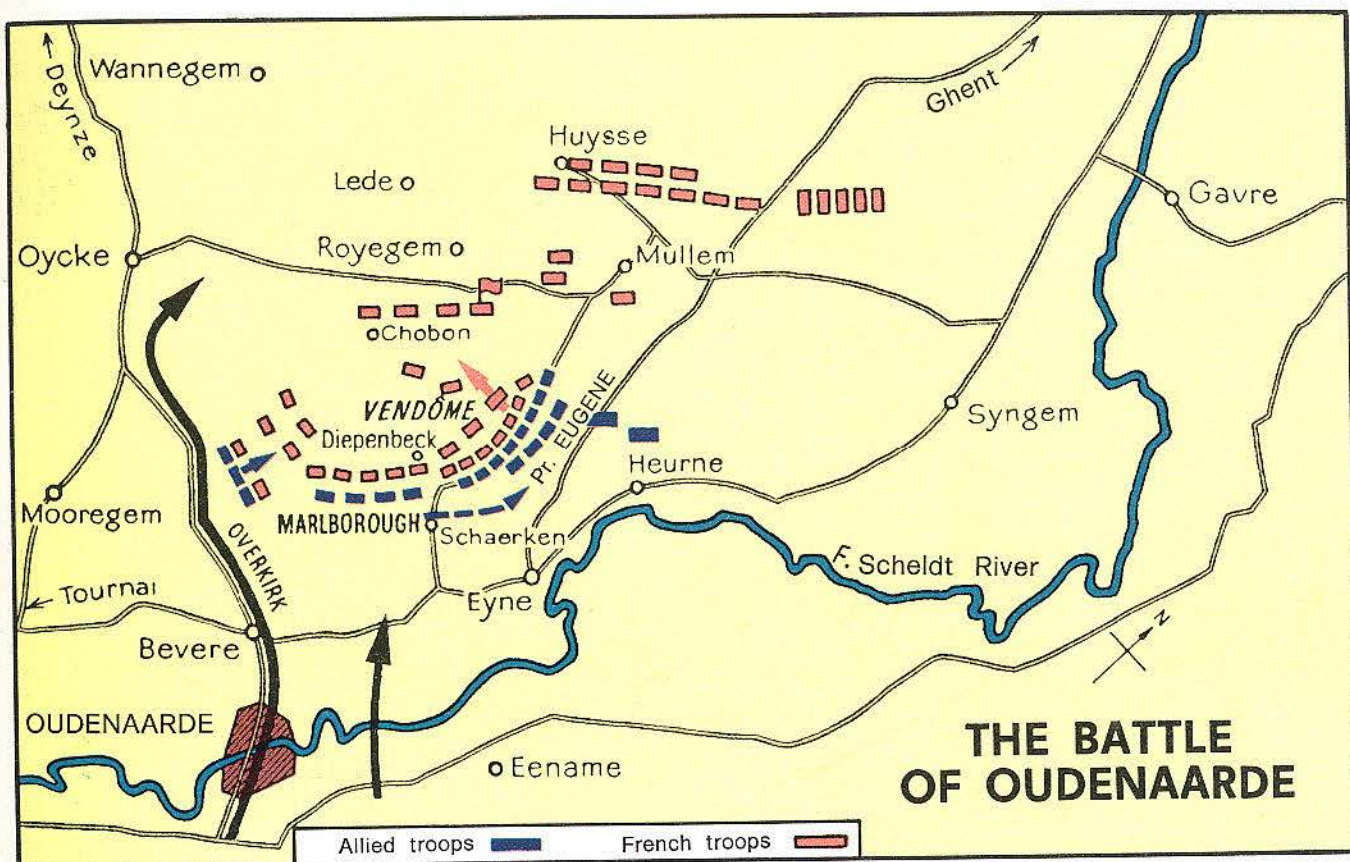
"Concentration of effort" is conditioned, but also enhanced, by this, because it expresses the degree to which man exercises his capacity to dominate a given situation, and the farsightedness of the decision-makers.

However, in the contemporary situation, the notion of "effort" has quite a different meaning from its classical sense of combining instruments and

resources along a preestablished axis.

Today, we prefer to consider this concept as the convergence of fire and resources on the target by forces which are initially dispersed and required to take up their initial position as soon as possible.

This development has been brought about by necessity, but it does not alter the validity of the "general" theory, which is immutable, and has been codified and consolidated by centuries



THE BATTLE OF OUDENAARDE

The Battle of Oudenaarde took place during the War of the Spanish Succession in 1708, on the left bank of the Scheldt River near the fortified Belgian town of Oudenaarde. The French army, led by the Duke of Burgundy and the Duke of Vendôme faced the joint Anglo-Dutch-Austrian forces under the Duke of Marlborough and Prince Eugene of Savoy.

At dawn on 11 August, the 80,000 man French army crossed the Scheldt and moved on the town of Oudenaarde which Vendôme intended to take by siege. The Allied forces, numbering about the same as the French, arrived

after forced marches and began crossing the river. After occupying the heights north of the town with the vanguard troops, they attacked the troops covering the enemy flanks. While the Allies were crossing the river, the French troops turned round to face them. Marlborough placed the right wing under Eugene and personally commanded the centre which was at a great disadvantage, while the rest of the army deployed in depth to the left; as the left flank spread out, the battle flared up along the front. The Anglo-Dutch-Austrian operation of crossing the river in stages, against an equal number of enemy forces was considered to be hazardous by the military of the time.

The rhythm of the battle and the changes imposed by the Allied tactics

prevented the French from being properly deployed, and many of the soldiers were unable to get into action because they were deployed too deeply. When darkness fell, and the last of the Allied forces under the veteran commander, Overkirk, crossed the river by the Oudenaarde bridges and turned north, Prince Eugene pressed the right flank to the west: both of the Allied flanks approached until they almost met. The French Army was split in two; over 40,000 men were virtually surrounded, while the remaining 40,000 stood impotently by on the hill overlooking the battlefield. Late that night, Vendôme realized that all was lost, and ordered the retreat, leaving about 7,000 prisoners behind, including a great many senior officers.

of experience.

Emphasis is placed on the momentum of manoeuvre to increase surprise and security, obtained by the speed of intervention and the speed with which new positions are conquered.

Speed of implementation underlies the operational act, requiring the coordination of actions over a large radius and a global view of the situation, which were unknown to tactics and strategy even in comparatively recent times.

Objectives are no longer viewed as static targets but as simple benchmarks, constituent elements of a single dynamic plan, even though they still keep their importance in the more complex battlefield situation.

FREEDOM OF ACTION

The plan to which these belong cannot and must not restrict "**freedom of action**", which is the third fundamental parameter of the military art.

Indeed, the succession of goals enhances the possibility of applying this parameter because, if they are interpreted in their modern sense, they do not condition the pursuit of the operations, being "evolutionary moments" in the battle in view of their physiognomy.

This ensures that the original plans can be altered and adapted to meet contingent situations and unforeseen and unpredictable needs as they arise from time to time.

The decision-making phase therefore becomes completely autonomous, unconstrained by rigid schemata which cannot be allowed to dominate the course of behaviour but merely serve as useful instruments.

If the contrary were to be the case, the manoeuvre would be hard to predict and would lose its effectiveness because it would give the enemy time and opportunity to take viable countermeasures.

The battle is a series of actions and reactions with predictable results, so that the might

of the material takes primacy, mortifying intuition and inventiveness, which are and remain the decisive elements of strategical/tactical supremacy.

In the final analysis, this is a mortifying and anachronistic return to the wars of the 17th and 18th centuries – the so-called "conventional" wars, so dear to the hearts of Turenne, Marlborough, Eugene of Savoy, Villars, William of Orange, etc., characterized by a prevalence of movements and counter-movements, advances and retreats, feints and counter-feints, which were costly, unproductive and slow.

Typical examples of this mentality are the battles of Blenheim and Oudenaarde, illustrated above.

ECONOMY OF FORCE

Success therefore depends on philosophy and doctrine expressed further in the "**economy of force**" principle, as a reasoned and constant quest for the maximum result with the minimum use of energy.

History and experience have shown the validity of this principle throughout the ages, and it seems to be as valid as ever today with our modern approach to warfare in which the traditional operational spaces are shrinking in size, objectives are increasing in number, and it is becoming necessary to reiterate forces in narrow time-limits.

Today, force "dispersal" has become an "active" instrument of war and the "security" of men and machines, but it has also created difficult problems of gearing forces to individual needs.

This need has been met by increasing the speed of movement, so that measures can be taken sufficiently rapidly to attain preestablished goals without using excessive energy.

By doing this, one preserves the possibility of taking further action and constantly having available enough men and materials to concentrate forces on the desired points.

In modern warfare, the concept, which is valid in both tactical and strategic terms, has to be translated into a capacity to act over a large radius with the same effectiveness in every direction, if it is to be rationally applied.

This greatly enhances the chances of success, compared with the chances that used to exist, when the "natural" slowness of the manoeuvre often made it necessary to apply the principle of economy of force in a piecemeal manner, reducing the validity of the action in certain "critical" sectors.

If this criterion is accurately implemented, vulnerability is reduced, provided that one's appraisal of the enemy force size is reliable.

It is particularly difficult to obtain sufficiently reliable intelligence on this today, despite the high degree of sophistication of the facilities at our disposal and our more accurate knowledge of potential enemies obtained in peace time.

The reason for this lies in that feature that is shared by all modern armies: the heightened speed which makes it possible to concentrate forces rapidly and disperse them equally rapidly.

In this context, the whole concept of "economy" – which is pure military technique – cannot be separated from the concept of "intuition", which is a gift of the commander, and almost an "art".

While, in previous wars, the former was able to play a preponderant role, in modern warfare both components have the same value because technique and intuition are closely integrated into an extremely mutable environment, which is subordinate to increasingly unpredictable constraints.

The simultaneous, appropriate application of "concentration of force" is more vital today than ever before, because it is the only principle that can harmonize the rational "economy of force" and the need not to irremediably jeopardize "freedom of action", under the common

auspices of "will/initiative".

These four principles require special forms of implementation in the contemporary war context, in the light of the constant threat of nuclear weapons.

One may realistically posit that nuclear weapons only serve as a deterrent, because apart from any moral, social or political considerations, their use would not bring any immediate benefits to the warring party who uses it, because of the obvious inability to exploit his success and a great many other negative considerations which are too well-known to need recalling here.

If, God forbid, the present equilibria were to be broken, the whole doctrinal panorama would break up, but this would not invalidate the four parameters mentioned above. In this case, they would certainly be applied in different ways because of their intrinsic flexibility, and their enormous capacity to adapt to the most varied situations.

But apart from the frightening hypotheses that we must reasonably relegate to the far reaches of science fiction, we must examine the conditions which – in the presence of nuclear weapons for purely deterrent purposes – arise as the doctrine develops.

First of all, we have to consider that the atomic threat – even though one hopes that it will ever merely remain a threat – makes it necessary to take adequate precautions, and necessarily influences the whole context of war.

First, the enormously enhanced possibilities of destruction have already changed the generic concept of "security" into the specific concept of "survival". This is a factor which has a far-reaching effect on the use of men, weapons and materials, on the way actions are implemented, and on procedures, opening up new avenues and creating huge problems.

Second, because of the direct and indirect effects of weapons whose destructive capacity cannot always be calculated and

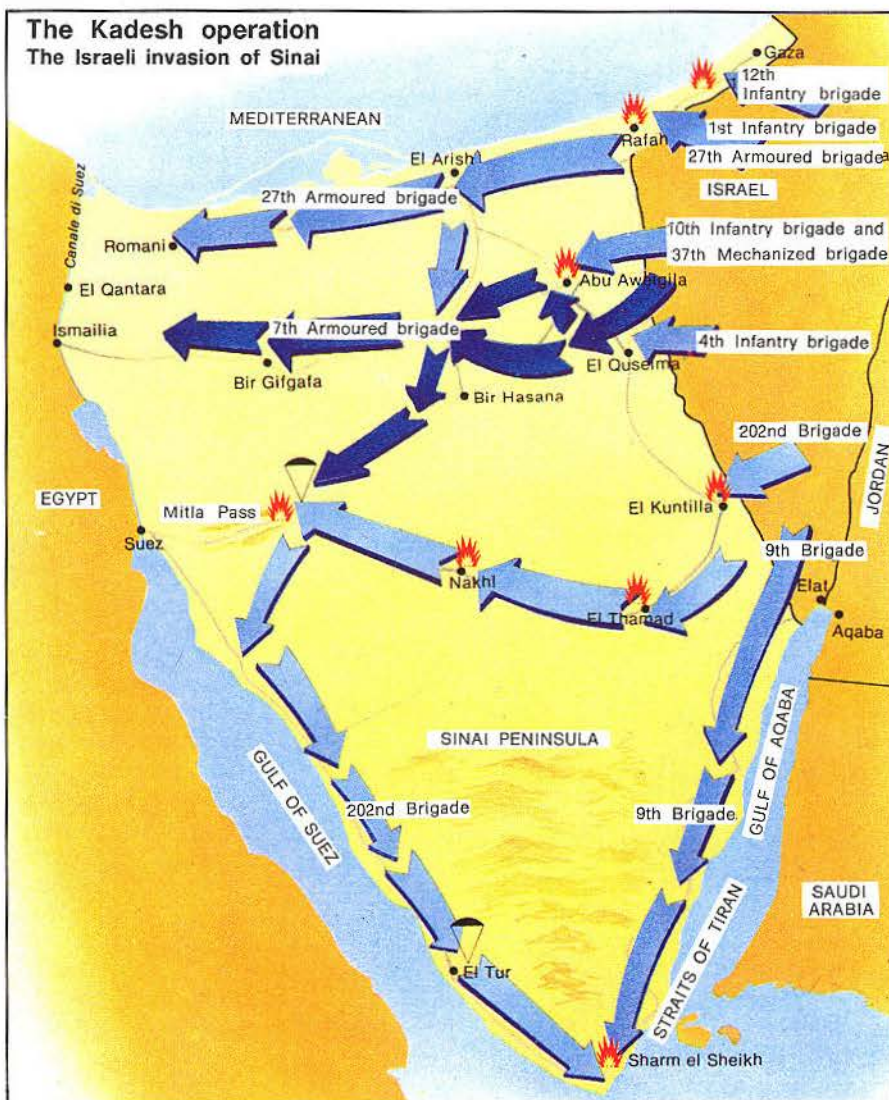
whose effects cannot be accurately predicted, nuclear weapons can no longer be viewed as a support to manoeuvre, like artillery or air support. They are of the essence, the focal point, and everything else in the conflict hinges around them.

The conceptual and implementational phases take second place in planning, but this does not mean that they are heavily constrained. Indeed, the inevitable "rigidity" of the action is partially offset by the manoeuvrability and mobility of the weaponry, leaving almost total free-

dom to choose the method and the procedures.

But there are constraints which have to be considered in the organization and preparation of war, and these mainly have to do with space, time, vehicles and material.

I have already hinted at the considerable shrinkage of space, which makes it necessary to give a greater dimension to the individual traditional "zones" in the framework of battle. We should now make it clear that the essential parameters of this innovation can be identified in a



In 1965, Israel launched a lightning attack against Egypt, converging all its armoured columns on the Suez Canal. This attack confirmed the decisive importance of tanks on the battlefield.

The Israeli Army was composed of reservists, with a small number of

recruits undergoing training, and had been organized for rapid mobilization. The total application of the principle of *will/initiative* underlay the Israeli success with an extremely flexible operational plan based on surprise and initiative.

different concept of "terrain" and in a greater "dispersal".

The first centres around the way in which the "canon" of holding fast to positions, come what may, is being transformed into the idea of using positions dynamically and temporarily even though they may be intrinsically strong.

The second makes manoeuvre effective because of the increased breadth of points of intervention, which enhances the security of the personnel and increases their chances of survival.

But as the spaces increase, the operational speed in general terms must be appropriately stepped up, which means increasing the possibilities of movement by having appropriate vehicles and implementing tactical solutions based on rapid intervention and flexible weaponry.

One effective example of the kind of support needed here is combining a mechanized and an airborne unit in which the helicopter's role is increasingly important in operational terms, without prejudice to its logistic use.

Once again the *vexata quaestio* arises about whether or not to emphasize the speed of the tank at the expense of its armour and survival capability.

It is a dilemma that has split the experts, but recent experiences and foreseeable needs will certainly help to solve it.

Also looming on the horizon is the enormous problem of communications, which is making increasing use of data processing and telematics as the main source of intelligence on the situation, and of ensuring constant control over the battlefield conditions.

The instruments and functions of telecommunications are undergoing a far-reaching process of renewal in view – *inter alia* – of their fundamental duty to support the artillery which can only fully exploit their greater firing distance and their missiles if they work very closely with it.

"Time" is a parameter that takes on particular relevance here, both as a result of the enlargement of the operational space and the speed of movement, and because of the need for rapid and functional communications.

Increased speed of action and movement makes it necessary to reconsider the evaluation of implementation times that are tending to shrink, but which require far greater organization and preparation, and make the availability of highly sophisticated material preeminent.

"Promptness" of intervention can only be ensured using highly reliable, high performance land vehicles and aircraft.

"Speed" of intervention cannot be considered without speed of communications, particularly of intelligence. Even a slight delay in supplying intelligence can jeopardize success, however objectively favourable the conditions might be. Past experience has shown this to be true, and today it has taken on vital relevance with the general recourse to electronics that is giving the armies of countries which are not highly technologically developed the appearance of being extremely modern, and endowing them with a considerably high operational potential.

Material therefore no longer has a purely "passive" function, but is tending to become an active element in combat, particularly when one considers the way that instruments reminiscent of science fiction have acquired the capacity to react automatically, so that on the battlefield they can operate much faster than human reflexes and with an "intelligence" that often leaves one amazed.

The real problem is therefore how to dominate these

marvels of human genius to prevent human intelligence from becoming totally subservient to the greater or lesser efficiency of machines.

Modern warfare runs the risk of being at the mercy of the automatic capacities of robots whose features lie on the bounds of human imagination. Yet they should only be viewed as manifestations of the supremacy of the human mind, and as such, be used to ensure the increasingly incisive application of the classical principles of the military art which the technological civilization cannot contaminate because they are the authentic pillars of the "philosophy" of warfare, valid in every age and in every latitude.

A final word, *en passant*, on the principles that I have been dealing with and on the possibility of identifying the true Commander with the true manager.

Much – often too much, unfortunately – is being written about this today.

Will/initiative, concentration of effort, freedom of action, and economy of force dominate the conceptual and organizational scenario with which the Commander has to deal. I have mentioned some of the whys and wherefores above.

But are not these same principles – being perennial and immutably valid – the very same principles that underpin any kind of managerial activity in any other field?

If so, why go on debating the need for a "managerial" training for Commanders, instead of acknowledging that a Commander worthy of his function already possesses the qualities and the physiognomy of the true Manager, precisely thanks to his specific qualities and continuing training?

Gen. Ciro Di Martino

RANDOM THOUGHTS ON THE MILITARY ART IN MODERN WARFARE

INTERNATIONAL SEMINARS ON NUCLEAR WARFARE

by
ANTONINO ZICHICHI

A new unit of measure was coined at Erice – the “T-dollar”. The “T” stands for Trillion, or one thousand billion. The “T-dollar” therefore amounts to one thousand billion dollars. One, two or three “T-dollars” is the sum that must be spent by the year 2000 on the study, research and construction of the new antinuclear shields better known as “Star Wars” weapons.

The supporters of this new planetary strategy in the confrontation between the two superpowers claim that it is incorrect to speak of “weapons” without making it clear that they are used solely for defensive purposes, not to destroy. However powerful it may be, a lesser beam can only put a missile out of action, not a whole city.

For this reason a group of US scientists led by Teller (the father of the American H Bomb) insists upon calling them the “new defence systems” so as to avoid confusing public opinion with false propaganda. According to Teller the latter term is the correct one, and more accurately defines this new aspect of the arms race.

The philosophy underlying the East-West debate which has so far guided the relationship of force between the two superpowers is known as **MAD** (which stands for Mutual Assured Destruction). If we were sure of being able to destroy each other, we would not be so mad as to light the fuse leading to war, say the MAD supporters.

However, there are three critical aspects to this philosophy. **Technical error**, which cannot be reduced to zero. **The human factor**. No one can rule out the possibility of some madman or other coming to power in the next ten, twenty or one hundred years. This new Hitler would have enough power in his hands to destroy all the world's life centres not once but several times over. All that would be left would be a few lonely sailors, the Lapps in the polar regions, the desert Bedouins and some other survivors. One thousand million persons would be killed outright. Stocks of medicines and food supplies would be destroyed, and the distribution and communication systems disrupted. It is estimated that this would cause a further thousand million deaths.

Then there is the economic factor. What price have the superpowers paid for MAD strategy over the past few years? The answer is: about 30 “T-dollars”. Continuing with this philosophy, between them the United States and the



Flying school.

Paintings by Sergio Amadio

Soviet Union would spend a further 30 "T-dollars" between now and the year 2000.

This immense wealth would be wasted on the construction of death weapons, while a thousand million fellow human beings are suffering poverty and tens of millions die of hunger every year. How can this pattern of criminal folly be broken?

Many proposals have been put forward. The best course would be disarmament, provided that it was mutual and controlled, as President



The splendours of the past.

Pertini again stressed in his message to the scientists attending the Erice meeting.

The 1982 Erice report was an invitation to world scientists involved in the arms race to reflect upon the possible disastrous consequences of their work. The problem was clearly stated by the scientists. However, the solution to the problem is not scientific in nature but must be sought at the cultural and political levels. If the world could ensure the triumph of a Culture preaching a brotherhood of nations, the respect of human

dignity and forgiveness instead of revenge, it would be possible to make a start on dismantling the stockpiles of arms. Present stockpiles amount to the equivalent of fifteen billion tons of ready-to-use TNT. This means three thousand kilos of explosive for every inhabitant on the Earth. We thus have three thousand kilos of destructive power, while three hundred kilos per capita of food would be enough to cancel out the terrible tragedy to which we have become inured, namely death from hunger. The solution to these problems is political in nature. Science has clearly shown that enough food is available to feed all four billion of the world's inhabitants. Hunger in the world is a problem insofar as the so-called modern Culture is based not on love of one's fellow man but on contempt for human dignity. This is clearly shown by the large area of the planet in which the despotic violence of dictatorship, not freedom, is the rule.

The MAD philosophy is the result of this Culture, in which the enemy is viewed as a man to be destroyed ruthlessly.

However, this has brought mankind to the brink of nuclear disaster and this disaster could actually eventuate as a result of madness or even fear. This is one of the new factors to emerge from the Erice "Seminars" thanks to the studies carried out by an eminent Swiss psychiatrist, Professor Edmond Gilleron. His analysis has shown that fear is a factor that must be taken into account.

If the MAD philosophy is applied, technical errors, madness and fear could conceivably lead to two billion of the world's inhabitants being wiped out. And what is more, a nuclear conflict between the United States and the Soviet Union would alter a number of the vital characteristics of our planet. And our planet is not the exclusive property of the two superpowers but belongs to its four billion inhabitants, who all have equal rights to live on it in peace.

The MAD supporters say they have given the world 40 years of peace. But they forget that this peace has already cost at least 30 "T-dollars" (thirty thousand billion dollars) and has brought mankind to the brink of self-destruction.

One cannot lightheartedly leave the equivalent of fifteen billion tons of TNT to posterity. Sooner or later, within ten, twenty, a hundred or a thousand years, error, madness or fear will light the fuse of this huge powder-keg which has been built up in the hope of maintaining the balance of terror at its peak (MAD).

We must find a way out.

Nothing has been achieved so far either by disarming or by freezing military spending. And scientists the world over have been actively engaged on these two fronts.

Let us try a new approach. Let us all, i.e. United States, Soviet Union, Europe and China, make a concerted effort to study the new defensive systems. This would cost ten times less than

the amount required to continue with the balance of terror. The new philosophy would become MAS (Mutual Assured Survival). To destroy a missile is an act of civilization. To destroy a city is a crime. This is the reason why we must sit down and study "Star Wars" shields together.

However, the MAD philosophers rejoined that the MAS philosophy is destabilizing in that it can guarantee sure survival to only one side in the nuclear conflict between the United States and the Soviet Union.

The results reported at Erice by physicists from the Livermore Laboratory (R. Budwine and L. Wood) show that the project to build a system with the capability of destroying 999 missiles out of a thousand has already overcome three critical obstacles. All this has been achieved within one year from the previous Erice "Seminar".

Overcoming difficulties in these studies can open up new horizons in one of the fastest developing high-tech areas.

The allocation to a group of brilliant men



The cloud hunter.

Memory of Brussels.



of the sum of two thousand million billion lire for a period of ten years would mean opening up an unprecedented new phase in high-tech research. Only one year ago the very idea of such research would have been considered pure science fiction.

However, the foreseeable future seems to indicate that my evaluation is correct. When a project does not break any of the fundamental laws of nature it will sooner or later become reality.

Suffice it to give one example. When the cream of western science gathered together in America to produce the first nuclear fission bomb, there was little optimism among the scientists involved. Many of them considered it solely as a duty; seeing that Hitler had decided to exploit nuclear fission for military purposes it was advisable not to neglect the subject. However, two top scientists refused to join the group. Their reason for not doing so was that man would never succeed in exploiting a nuclear process on a large scale. The diameter of a nucleus is measured in tens of thousandths of billionths of a centimeter. The diameter of a bomb is measured in metres. To construct a nuclear device by exploiting nuclear fission was thus considered to be science fiction. Also Teller's H Bomb project was considered

An ancient legend relates that the Trojan Horse rebelled against the misdeeds committed by the Greeks and destroyed itself.



The revolt of the Trojan Horse.

science fiction, not to mention the present-day Star Wars projects.

This new research will obviously have a destabilizing effect on the world if carried out in secret. And we still do not know whether it will be possible to break through the barrier of suspicion and mutual distrust which could lead to the destruction of our entire planet. However, one thing is certain. These studies will lead to extraordinary technological applications in all fields. If the barrier is not broken down, these applications will remain the exclusive and secret property of the two Superpowers.

Even if men have sufficient good will to avert the nuclear winter it will probably not be enough to save Europe and the rest of the world from the winter of underdevelopment.

What has been said above is the background to the Erice document signed by scientists from the two Superpowers. These scientists clearly state that they wish to involve the best thinking minds in the world in this new research, quite independently of all ideological, political and racial barriers.

This is the only way in which Peace and Progress can be constructed. By means of facts, not words.

Antonino Zichichi

The 4th Erice Seminar on Nuclear War has provided a significant forum for presentation of research findings, new concepts, debate on issues of disagreement, and a basis for future endeavours of cooperation.

New findings suggest limitations of analysis as well as opportunities for peaceful collaboration.

MEMORANDUM OF AGREEMENT

between the
Scientific Delegations of EUROPE, USA, USSR,
at the 4th International Seminar on Nuclear War
held in Erice (19-24) August, 1984

Climatic Effects of Nuclear War: It is recommended that co-operative research on improved models and simulations of the climatic effects of nuclear war be continued and expanded. This recommendation is made on the basis of the questions raised at this Seminar as to the validity of the hypotheses underlying the climatic studies made thus far.

Natural Geophysical Events: The history of the earth suggests that many massive natural events have occurred, and that a study of these could provide significant understanding of the effect on climate of large scale perturbations. The geological record contains a plenum of fossil evidence and current models could be judged by their ability to describe the climatic consequences of past natural events. These natural events include asteroid encounters and major volcanism. This Seminar supports planetary cooperation in the development of the means to detect, to access, and to intervene in such events, selecting for example Apollo asteroids as technologically the most feasible for early co-operation.

Nuclear War's Biological Effects and their Influence on Spiritual Life of Humanity: A comprehensive study is proposed of possible biological consequences of nuclear war, such as the molecular genetic and psychological aspects of man, and the development of mathematical models for various such impacts on human populations. The attention of scientists and politicians must be focused on the problem of changing spiritual values, as a result either of total war, or at this stage, of waiting for the potential holocaust.

Defensive Systems: The discussions on the feasibility of strategic defensive systems and their possible contributions to the maintenance of peace in the decade ahead have brought into focus major difference of opinion. It is essential that the technical issues be resolved, and that accurate evaluations of the potential capabilities of Defensive Systems be established. We therefore strongly encourage scientists of all nations to undertake a long-term research program aimed at eliminating the threat posed by strategic nuclear missiles. We also encourage international cooperation and collaboration in this area. We further propose that subsequent Erice Conferences review and disseminate the results of the international endeavours on Defensive Systems, in the spirit of decreasing secrecy.

SIGNED BY

USA

Robert Budwine
Joseph B. Knox
John H. Nuckolls
Lowell Wood

USSR

Vladimir V. Aleksandrov
Nikita N. Moiseev
Mark A. Mokulskii
Aleksei A. Vasiliev

EUROPE

Antonino Zichichi

sèkur **PIRELLI** **for protection**

A brand for 75 years of experience

Sèkur is the trade mark which identifies the protective equipment developed for many years by Pirelli.

Pirelli started manufacturing products for human safety as from the first World War, and has continuously expanded and updated its range, to meet the rising needs created, over the years, by the growing threats of new technology.

Sèkur is also the name of the Pirelli Group company to which the Group itself has assigned the activities related to Protection. **Sèkur** makes a broad range of products in the following fields:

- **Respiratory protection**
 - full face masks
 - filters and cartridges
 - s. c. breathing apparatus
- **Fire protection**
 - escape hoods
- **Body protection**
 - NBC sweat-free outfits
 - NBC air-tight overalls
 - NBC gloves and overshoes
- **Collective protection**
 - filter units for:
 - shelters, caverns, casemates,
 - armoured vehicles, ships, airplanes...

Sèkur is also well known as a manufacturer of:

- **Rubber safety fuel tanks**
 - self-sealing
 - crash resistant
 - flexible

for armoured vehicles, airplanes, helicopters, light vessels...
- **Rubber collapsible tanks**

for storage and transportation of fuel and water.

Sèkur has acquired great expertise during the years and can grant the users a complete service, starting from the exact identification of the problem, to the choice of the right product, the development and engineering of tailor-made solutions, the training and supply of technical documentation, the spares and maintenance service.

Sèkur: Quality and Service

Sèkur S.p.A.

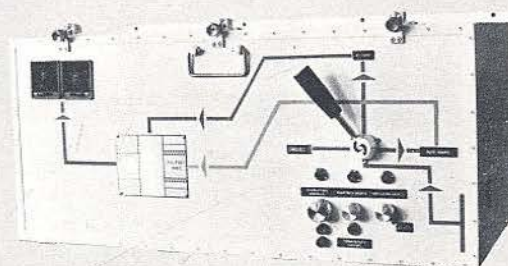
Via di Torrespaccata 140 - 00169 Rome - Italy



NBC sweat-free outfit, complete with M59 respirator



SEKUR-CAP/N escape hood



SEKURPLANT 35, filter unit for shelters



Rubber safety fuel tank

HYDRO-SIL collapsible tank for water



REFORGER 84

Transamerica



The 5th US Mechanized Infantry being transported from Louisiana to the heart of Europe during the **Return of Forces to Germany** exercise.





Defence problems were very much on the general public's mind in the United States during the public debates conducted during the hardfought 1984 electoral campaign. A growing number of citizens were concerned with security issues and wished to make their opinions known and influence the decisions taken at political level as much as they could. There have been lengthy discussions about the presence of US forces in Europe, on the acquisition of new weapon systems such as the MX missile, the costly conventional rearmament of the navy and the Star Wars projects.

Of course these new trends in US defence policy have been followed with interest also in Europe, although the general public is little concerned with military matters.

European observers have been mainly struck by the fact that most of the defence spending seems to have been on strategic nuclear weapons and on boosting the Navy, to the detriment of the conventional ground forces and tactical air force. Much anxiety was aroused by the recent 373 page report by the Appropriations Subcommittee of the House chaired by the Democratic Senator Joseph Ad-



dabbo. According to the latter the combat readiness of the United States has actually declined over the past four years despite the heavy increases in military spending. The report lays charges that the army **"cannot be maintained in the field for a long period of combat"**, that the 101st Airborne Division based at Fort Campbell **"has an astonishing personnel turnover of 16.6% per month"** and that the **"increases accorded have not improved the state of readiness of the existing forces"**.

These are serious charges, which have been categorically denied by General John Vessey, the Chairman of the Chiefs of Staff Committee. He claims that United States can now rapidly airlift 25% more supplies to the troops in Europe than four years ago and that the new ground support F-16s have much more accurate weaponry than the F-4s they have replaced.

Since words must be accompanied by facts, an opportunity for testing the operational readiness of the United States pre-

In the photos: the units at Fort Polk during preparations for their departure for Europe.

Below: baggage inspection using anti-drug dogs.





sented itself in the form of the vast array of NATO exercises planned for the "Autumn Forge 1984" series, and particularly the "Reforger 84" exercise.

We followed the troops taking part in the exercise, observing operations both in the United States and during the subsequent airlift to Germany of the 5th Infantry Division (Mechanized) based at Fort Polk in Louisiana.

Reforger, which stands for RETURN of FORces to GERMANY, is an annual combined forces exercise in strategic mobility carried out by the US Army, Navy and Air Force. It involves transporting a Division to the heart of Europe to demonstrate the United States' capacity for re-inforcing the NATO forces.

The 5th Infantry Division (Mechanized) chosen for the exercise has a brilliant tradition behind it. It fought in World War I in Germany and its members have been known as the "red devils" ever since. It performed well during World War II and during tough training cycles in the postwar period, acquiring the capability of readiness to go into action anywhere in the world at very short notice.

Transportation was both by sea, on two ships sailing from Beaumont in Texas to Antwerp in Belgium, and by Boeing 747 civil air liners departing from England air base in Louisiana and landing in Brussels and Frankfurt.



The liaison unit responsible for setting up the initial command and control system made arrangements for materials to be stockpiled in Europe-ready for use. These were known as POMCUS = Positioned Material Configured Unit Sets, and consisted of tanks, reconnaissance vehicles, tracked vehicles, motor trucks and various other material, the stockpiling of which in Europe allowed the US troops arriving from across the sea to be deployed rapidly.

In addition to the troops, the ships also carried materials from the US that were not available at the pre-positioned POMCUS sites in Europe.

The units taking part in the exercise gave proof of a high degree of efficiency, the result of the intelligent and systematic training they had received and of their modern and rational equipment and the unlimited availability of exercise structures situated in well-organized training areas provided with abundant vehicles, ammunition and equipment.

Young blacks and white, men and women, mixed together in the same units, travelled on comfortable air-conditioned coaches to the awaiting Jumbos. They boarded the aircraft with their personal weapons and were served by pretty stewardesses during the flight.





BAR FROST

Annual national Norwegian exercise involving permanent local forces and refresher training units (Northern Brigade). The purpose of the exercise is to carry out tactical operations in cooperation with allied sea and air forces. The exercise takes place in northern Norway.

BLIND FAGOT

Exercise carried out in Denmark to control the transfer of Danish anti-aircraft units across Jutland and Zealand using amphibious units made available by West Germany. The exercise takes place in the Kattegat and the Danish Strait.

BOLD GANNET

Exercise held in the Zealand islands in Denmark in order to try out procedures for the deployment of a British mobile force and combined UK-Netherlands landing forces. Those participating include units of the German army, US air force and Danish forces for a total of 15,000 troops.



BRISK FRAY

Exercise organized by West Germany at divisional level in the Schleswig-Holstein area together with Danish and British forces. The purpose is to carry out training in interoperability between field forces, territorial army and allied forces. Participants: 12,000 troops.

BROWN FALCON

Exercise for Danish and German air forces in the Denmark and Schleswig-Holstein areas.

FLOTEX

Sea exercise run by Norway in its northern territorial waters for the purpose of trying out new national operational tactics.

WIPE

Annual Norwegian exercise at brigade level in order to train national army units. Also participating are a British battalion and units of the US air force in Rogaland (southwest Norway).

AUTUMN MOMENT

Divisional level training exercise organized by the Netherlands for the purpose of carrying out offensive and defensive operations. One Danish brigade and one US battalion participate, for a total of 9,000 troops.

CERTAIN FURY

Exercise carried out in Germany by the 7th US Army Corps. Also participating are units of the army corps, elements of the German territorial army, the US National Guard and active units stationed in the United States and transported to Europe. Key objectives of the exercise are training in defensive operations and the perfecting of the command, control and communications systems. About 40,000 troops participate.

COLD FIRE

Air exercise involving the Central Region and carried out by the 2nd and 4th ATAF air units in support of land operations. The aim is for tactical air force units and army unit to exercise together in the Central Region at Army Corps level.



EXERCISES AUTUMN FORGE 84

FLINKER IGEL

Exercise at Army Corps level for the purpose of training territorial and allied forces in combined operations and to activate cooperation between ground and air forces. About 55,000 German, US and Canadian troops participate in this exercise, which takes place in the area northwest of Munich.

FULL FLOW

Logistical support exercise conducted by the British 1st Army Corps on German territory for the purpose of establishing lines of communication on the continent and of deploying reinforcements from the UK. It also includes the return of the British reinforcements to the UK from the various exercise areas. The exercise is carried out in conjunction with the Belgian, Danish and German territorial commands. A number of US units also participate. The exercise area takes in the port of Ostend, Zeebrugge, Antwerp, Leuch and the Rhine district.

DETERRENT FORCE

This a NATO naval exercise carried out in the Mediterranean. It begins with the

LIONHEART

Air Force exercise, carried out in the United Kingdom and the continent. The aim is to test the UK contribution to NATO's Central Region. The exercise begins in the UK with the mobilization of regular and reserve forces, totalling 131,000 military participating.

REFORGER 84

Exercise organized to demonstrate the US determination and capacity to meet its engagement with NATO, by preparing exercises of rapid strategic reinforcements in Europe. The exercise is carried out every year and hinges on US support activities. The participating nations are the United States, Belgium, Luxembourg and the Federal Republic of Germany. The American units remain in a strategic position during their journey through Europe and are prepared to face up to "enemy" interdiction operations during their movement to the combat zones. Participants: 15,000 troops.



ROARING LION

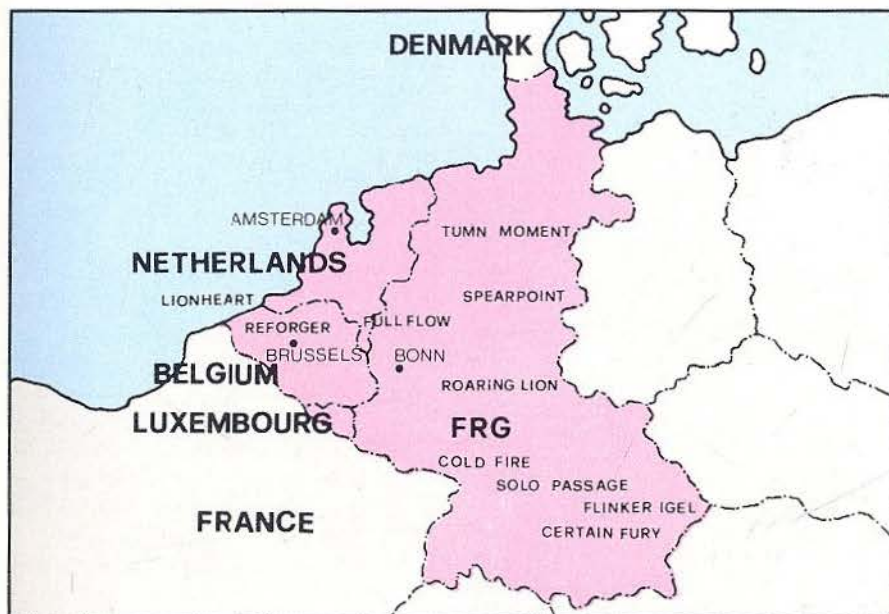
Exercise at Army Corps level held in West Germany with the participation of a Belgian paratroop regiment, a US brigade and a German helicopter battalion. The main objectives are training in defensive operations and in enhancing interoperability with allied units. About 21,000 troops take part in the exercise, which occupies an area situated between Paderborne Kassel and the Weser to the east and a line running from Lenne-stadt to Arnberg to the west.

SPEARPOINT

Exercise of the British 1st Army Corps. It involves the deployment of the 3rd and German 4th Mechanized Divisions and the British 2nd Infantry Division. Also Danish, German and US units participate. The new Challenger tank, the Saxon troop carrier, the MCV-80 and the Tornado aircraft are to be used in the exercise. SPEARPOINT is carried out in lower Saxony, between Bielefeld to the west and a line running eastward through Goslar and Osterode to the east, about 10 Km west of the German border.

SOLO PASSAGE

Exercise of the group of Canadian Mechanized Brigades aimed at preparing the units to participate in the German FLINKEL IGEL exercise by training them to carry out defensive and offensive operations. Also a number of German units participate. About 5,000 troops are involved in an area situated south-west of Nuremberg.



activation of a rapid-deployment naval task force composed of frigates, destroyers and support vessels from Greece, Italy, Turkey, Great Britain and the United States.

DISPLAY DETERMINATION

Land, sea and air exercise held in the Northern Region and involving Italian and Turkish forces, US theatre units, French, Portuguese and British troops, as well as UK, US and NAEW NATO aircraft. The exercise area takes in the central and eastern Mediterranean, the Black Sea, northeastern Italy and Turkish Thracia.





Units of the 5th Division training at Fort Polk.



Gen. Vesser, commanding officer of the 5th Division.



On their arrival in Belgium and Germany the units were simultaneously reformed. Their equipment was made up from previously prepared material and they launched into the exercise which, among other things, called for an armed crossing of the Danube in the presence of the "enemy". Both the "blue" and the "orange" forces were present on the ground, with umpires to evaluate the outcome of the clashes and count the respective losses.

The 5th Mechanized Infantry Division and the air and naval forces engaged in the exercise proved themselves to be highly efficient and to have attained a high degree of operational readiness. The exercise dissipated any doubts that might have existed concerning a decline in the capacity of the US forces to intervene overseas.

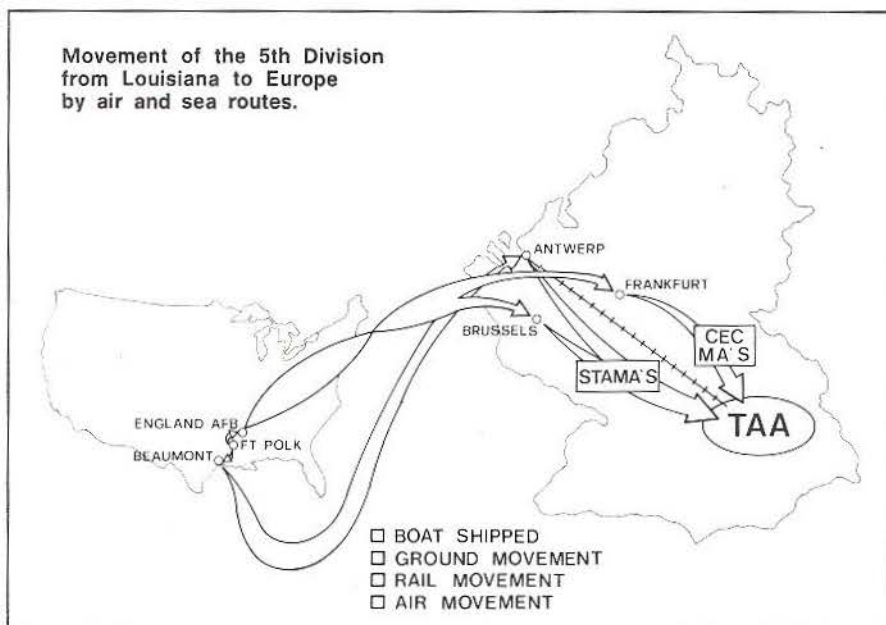
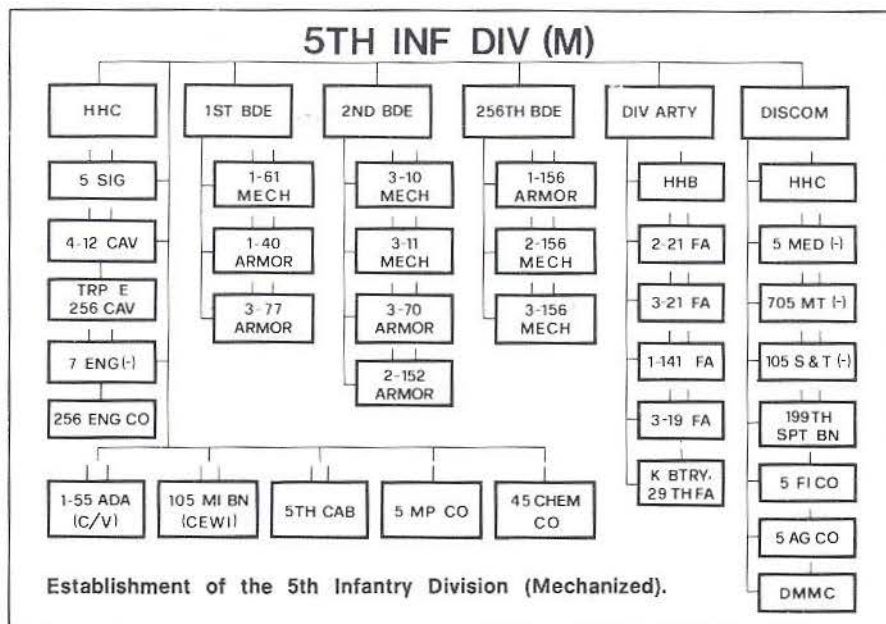
Nevertheless, some doubts still remain over the basic US military policy decisions concerning the priority given to boosting the strategic forces and the navy. Many Europeans are convinced that it would have been more effective to reinforce the NATO armies and the tactical air force, instead of giving priority to world sea strategy. The latter will entail the US building up fifteen large aircraft carrier formations, including three new units costing eighteen million dollars each. Also the strengthening of the fleets of the European countries has been challenged for the same reason. The most substantial threat to be faced today seems to be the one on the NATO land front, since the nuclear power of the United States is no longer capable of deterring all the kinds of aggression to which Europe could fall prey. The weak link in the flexible response strategy is represented precisely by the conventional forces. Furthermore, there is little likelihood of the situation being improved by boosting the tactical nuclear forces or, to an even lesser extent, the navy, since the greatest threat comes from the armoured divisions deployed on the European front.

Without adequate conventional forces, flexible response could become a dangerous strategy since the nuclear power of the United States can deter the enemy from using similar nuclear arms but not from using conventional forces. No one knows what intentions the Russian have, nor can they reasonably be expected to attack the NATO countries. Nevertheless, evaluations must not be based on the enemy's "intentions" but on the "possible action" that could derive from the forces available to him. From this standpoint a reason for Soviet intervention, perhaps by means of a simple show of force, could be the attempts to reunite the two Germanies, the combined economic and industrial might of which would represent an intolerable concentration of power for the Soviet Union.

Some claim that the present imbalance of conventional forces in Europe could be corrected by using the neutron bomb. It is believed capable of boosting the defensive capacity of the ground forces to the extent that the bomb could actually be considered a conventional weapon.

But we have no way of knowing whether the enemy would agree to consider the neutron bomb as a conventional weapon. Indeed, there is every indication that the use of this device would trigger the employment of the nuclear deterrent and make its subsequent use more probable.

Nowadays it is apparent that peace is increasingly less safeguarded by nuclear weapons and could be more satisfactorily ensured by boosting conventional armaments until a reasonable degree of force balance was reached. It is thus quite unjustified to think that conventional forces have no longer any value



in the nuclear age. They represent an essential factor in the defence and from this point of view the "Autumn Forge" exercises provide a very interesting testing ground.

"Reforger 84" in particular is of great importance as far as

Europe's defences are concerned, since the timely and largescale intervention of forces from overseas could avoid having to use nuclear weapons on European soil.

Pier Giorgio Franzosi

REFORGER 84



THE «CATRIN» SYSTEM

The CATRIN system (a field communications and intelligence system) must be seen within the broader frame of the so called C3I system, i.e. the complex activity of command, control, communication and intelligence, fundamental for the management of a great undertaking like the Army.

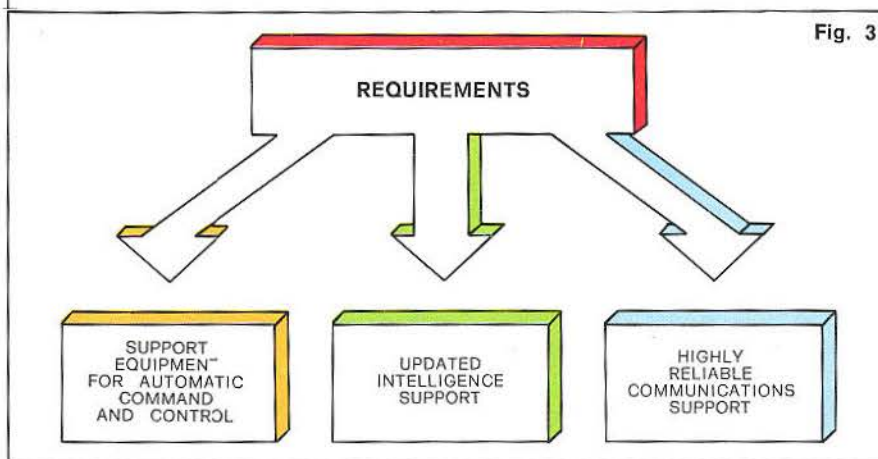
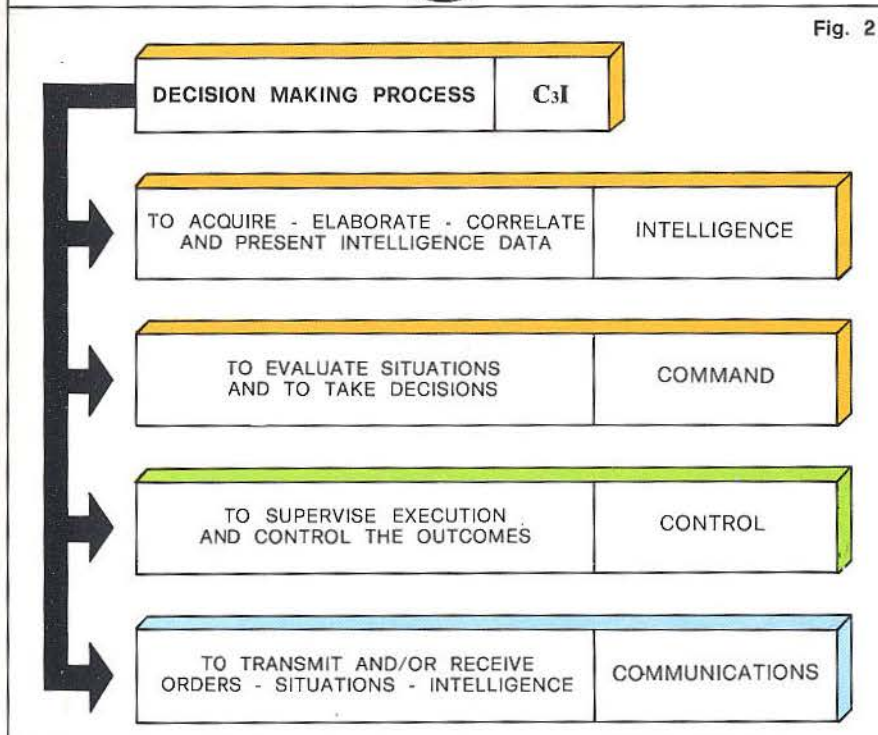
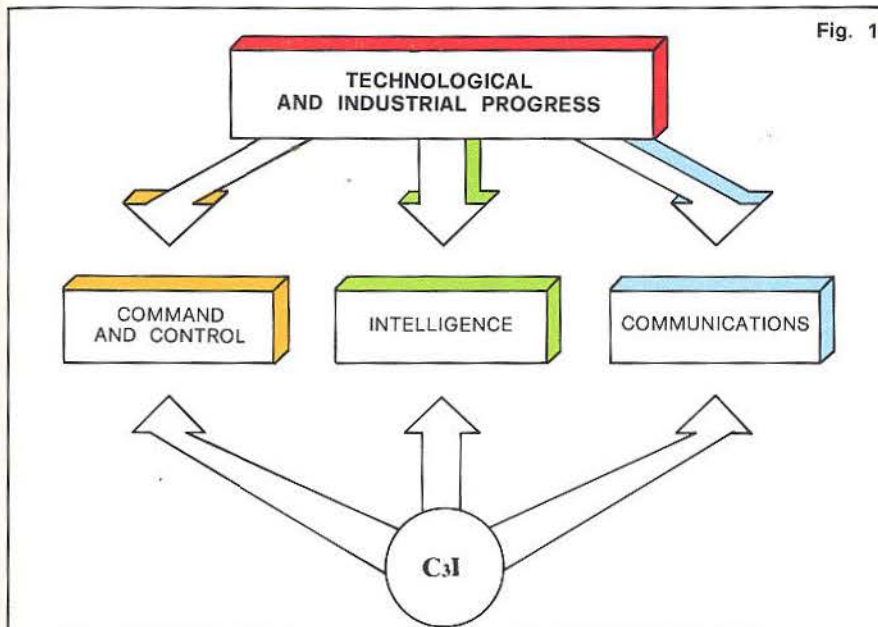
To consider CATRIN in this way appears justified, on one side, by the requirement of a necessary harmonization of different activities in a global frame and to underline, on the other,

that the system itself, although a complex one, is nevertheless only a part of a much broader mosaic.

It must be remembered, however, that the activities of command, control, communication and intelligence (C3I), together with the entire more recent concept of warfare, feel today more and more the effects of the rapid evolution undergone by the most modern technologies naturally pressing in a frantic effort to overcome each other.

The means and equipments adopted by the Armies tend to augment their sophistication and to ensure very high performances, while the strategic and tactical scenarios change rapidly their operational aspects and cover more ample portions of the territory.

In this instance, the volume and the frequency of decisions expected for the next future from a commander to exercise **command and control** will be much higher than today and will require the availability of a **large**



flow of intelligence in narrow limits of time and the dissemination of orders and intelligence in real time (Fig. 1).

The functions permitting all this are precisely included within C3I (Fig. 2). In fact:

- to acquire, elaborate, correlate and visualize intelligence data, means **intelligence**;
- to evaluate situation data and to take decisions, means **command**;
- to supervise the execution and to control the outcomes, in a fluid situation as the battle field one, in presence of adverse factors like the enemy offensive and the electronic warfare, the combat strain, the terrain and the weather conditions, means **control**;
- to disseminate or receive orders, situations, data of various nature, means **communications**.

Up to now, the Italian Army has performed such functions only in a traditional way, although availing itself of qualified staff personnel. Not only; as we shall see more in detail later on, the Army still suffers of remarkable deficiencies also in its capacity to acquire and elaborate data, once these reach the Command Posts.

Taking into account this situation of sensible delay in comparison to the possibilities offered by modern techniques and technologies, the Army General Staff has given way, a few years ago, to a series of initiatives within C3I. In this context lays the communications and intelligence field system called CATRIN.

We shall deal with it more in detail further ahead discussing its component sub-systems.

In short, the Army has felt the **need** to avail itself of automatic command and control equipment (C2), of an updated intelligence support and of a highly reliable communications system (Fig. 3).

We shall discuss now, for each sector (command and control, intelligence and communications) the present situation and the programs set up by the Army.

COMMAND AND CONTROL

Present situation

Up to now, the procedures and the command organization within the Command Posts, still of a traditional type, clearly show their limits. This appears especially during critical phases because of the difficulty to manually process the great amount of data available, to keep situations updated, to carry out in real time the necessary evaluations and to disseminate the related orders and information.

Trends

Hence, the Army tends (common as well to the Armies of other countries, allied or not) to set up, at Brigade, Divisional and higher levels, an operational command structure formed by a complex of automatic devices, mutually integrated and capable not only of processing and visualize in real time for the commander's decisions the flow of data, but also of transferring, still in real time, orders and intelligence from one unit to the other through the use of "intelligent" terminals.

All this to enhance, on one side, the operational effectiveness of staffs and units and to grant, on the other, more flexibility to the command structure, trusting on highly reliable communications for the transfer of orders and data (Fig. 4).

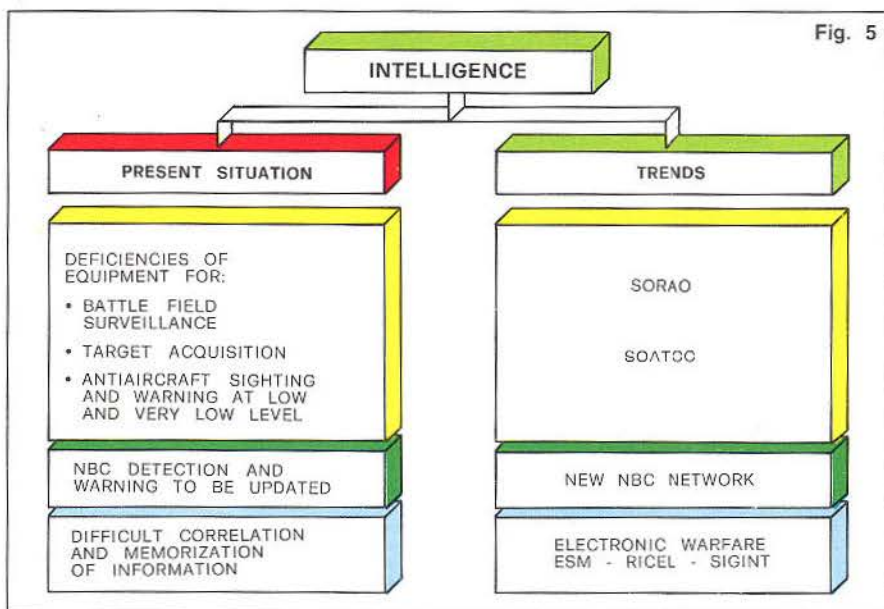
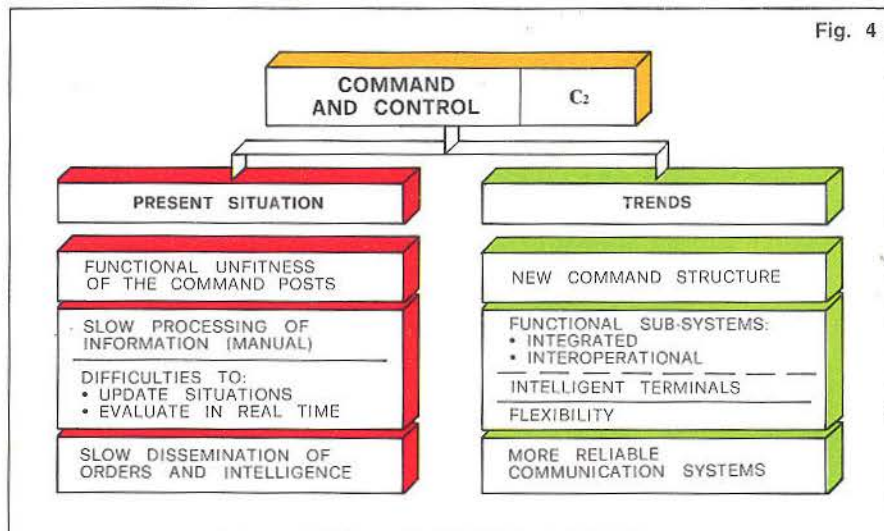
INTELLIGENCE

Present situation

On the actual battle field, although gathered through numerous and various means, the intelligence data are seldom complete and do not correspond to the modern operational requirements.

The more significant setbacks concern:

- the battle field surveillance, due to the almost complete absence of specific sensors;
- the target acquisition;
- the short range sighting of low and very low level attacking armed aircraft and helicopters and the defense systems warning;



- the detection and alarm, in peacetime and on emergency, against the NBC threat;
- the availability of automatic devices to correlate and memorize the flow of intelligence data (Fig. 5).

Trends

The Army's policy in this field is to fill up these gaps through the procurement of all weather sensors which have been included, depending on their functions, into two CATRIN sub-systems: the surveillance and target acquisition one, called SORAO and the anti-aircraft tactical detection sub-system called SOATCC.

We shall discuss both of them later on.

Furthermore, an improvement has been foreseen concerning the NBC warning network through the integration of the peacetime organization with the emergency one.

A specific care will be granted to the intelligence problems stemming from electronic warfare activities and from the electronic research, i.e. to the aspects of the so called "electronic support measures" (ESM) and "electronic research" (RICEL-SIGINT) (Fig. 5).

COMMUNICATIONS

Present situation

The existing communications system, based upon the use of traditional sets, shows numerous

limitations such as the lack of mobility, the slow processing of traffic, the sensibility to electronic warfare measures. All this is due to outdated constructive and technological concepts as well as to the employment conditions mainly based upon structures of a hierarchical type (Fig. 6).

Trends

To fill the gaps and to face the conditions posed by the enemy forces and by the physical and electromagnetic surroundings, the Army is now inclined to procure a communications system characterized by three specific features:

- high capability to survive ensuring communications even in case of massive destructions (up to 50%);
- remarkable mobility and capability of rapid deployment and redeployment of the various networks, ability to process in real time a high number of different information and to grant operational continuity even in most fluid situations;
- high resistance to the enemy electronic warfare.

All this means the setting up of networks similar to those of the CATRIN sub-system called SOTRIN (which we shall discuss further ahead) and the decisive improvement of the combat radio network (CNR) for the Brigade and lower levels (Fig. 6).

In short, the C3I components which have to be developed as soon as possible to reduce and/or eliminate the above mentioned deficiencies and to meet the Army's requirements in this specific field concern (Fig. 7):

- the field communications and intelligence system CATRIN with its three sub-systems: for the surveillance and target acquisition, SORAO; for the tactical anti-aircraft detection and the coordination of the Army Aviation, SOATCC; for integrated communications, SOTRIN;
- the combat radio network (CNR) which needs to be modernized and to become more resistant against electronic warfare activities;

Fig. 6

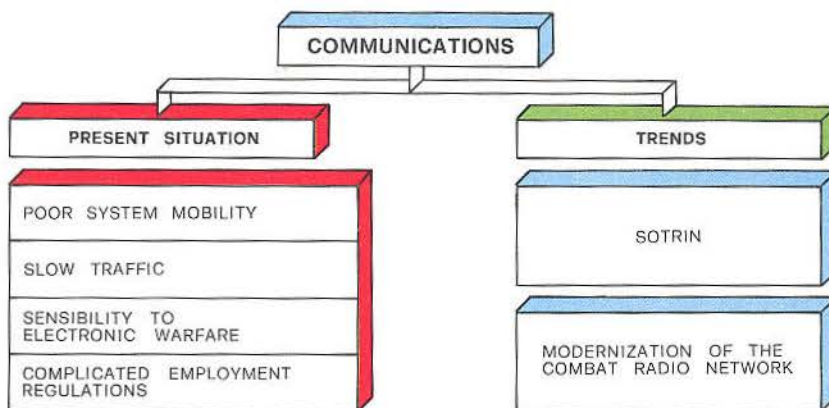


Fig. 7

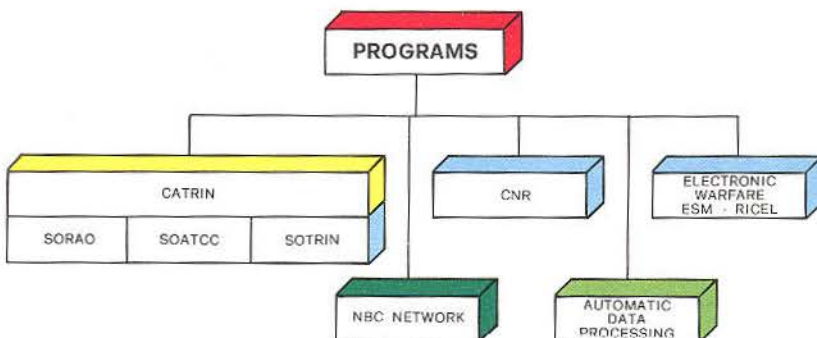
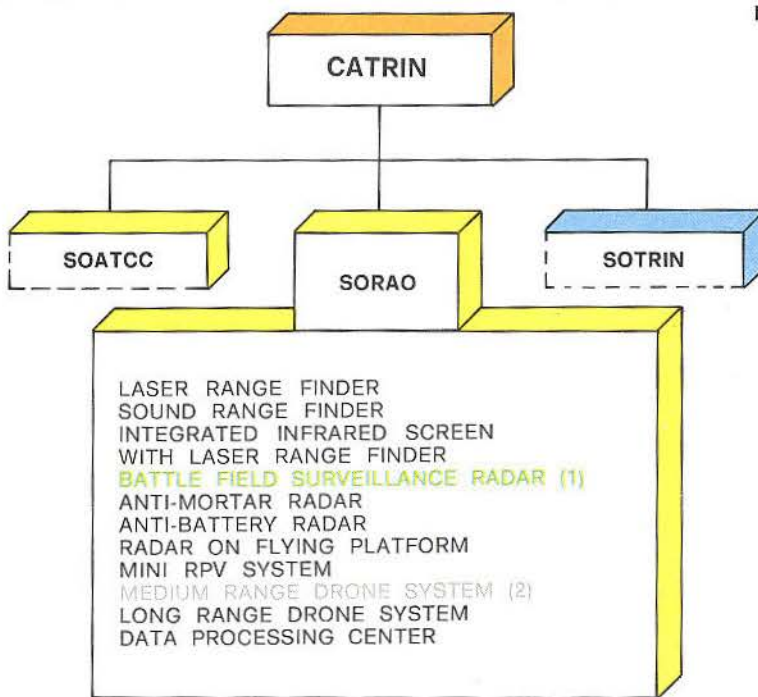


Fig. 8

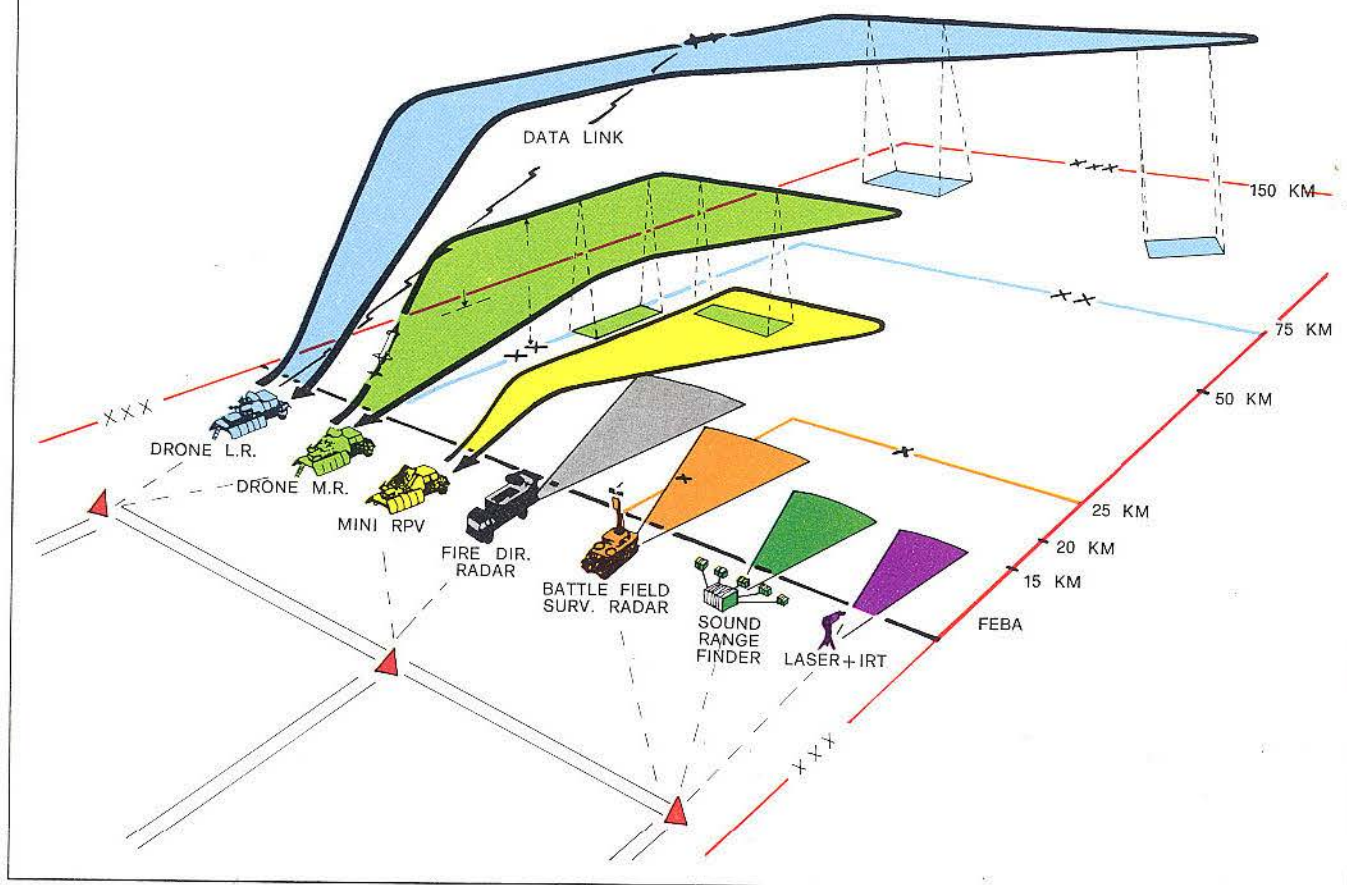


(1) On procurement phase.

(2) Under operational test.

SORAO (BATTLE FIELD SURVEILLANCE AND TARGET ACQUISITION)

Fig. 9



- an integrated communications and non communications electronic warfare system;
- a suitable field command and control system and a valid NBC warning network.

As far as CATRIN is concerned, included on purpose – as mentioned before – in a broader frame of the Army's programming, its global and systematic aspect within the C3I problem is worth being stressed. In fact, CATRIN should not only permit to its sub-systems and to their components to smoothly interoperate without complicated interface problems, but should also allow to easily face the C2 activities and the data collection concerning the electronic support measures (ESM), the electronic (RICEL) and the NBC search. In a more remote prospect, also the CNR radio sets should have the capability of easy and natural access to CATRIN.

This is a outlook conceived since a few years. In fact, some specific equipments, in a phase of advanced study or recently adopted, are already compatible with CATRIN.

Let's now discuss, for each CATRIN sub-system, the real situation in terms of necessary components and of their availability.

SURVEILLANCE AND TARGET ACQUISITION SUB-SYSTEM (SORAO)

Its component elements are (Fig. 8):

- laser range finder;
- sound range finder;
- integrated infrared passive screen (IRT) with laser range finder;
- battle field surveillance radar;
- anti-mortar radar;
- anti-battery radar;
- radar on flying platform;

- mini-RPV system;
- medium range drone system;
- long range drone system;
- data processing center.

Except the medium range drone AN/USD-501 (already field compatible) and the battle field surveillance radar (actually on procurement phase) all the remaining equipment has yet to be developed. In an ideal outlook, SORAO may appear like on Figure 9.

TACTICAL ANTI-AIRCRAFT DETECTION SUB-SYSTEM (SOATCC)

Its necessary elements are (Fig. 10):

- detection centers with:
 - surveillance radars;
 - acquisition radars;
- report centers with:
 - automatic data processor;
 - trace simulator;
 - data presentation console;

- rece-transmitter sets (ADL and voice);
- operational cell with:
 - automatic data processor;
 - data presentation console;
 - rece-transmitter sets;
- control centers with:
 - automatic data processor;
 - control and data presentation console;
 - trace simulator;
 - rece-transmitter sets;
- air warning receivers.

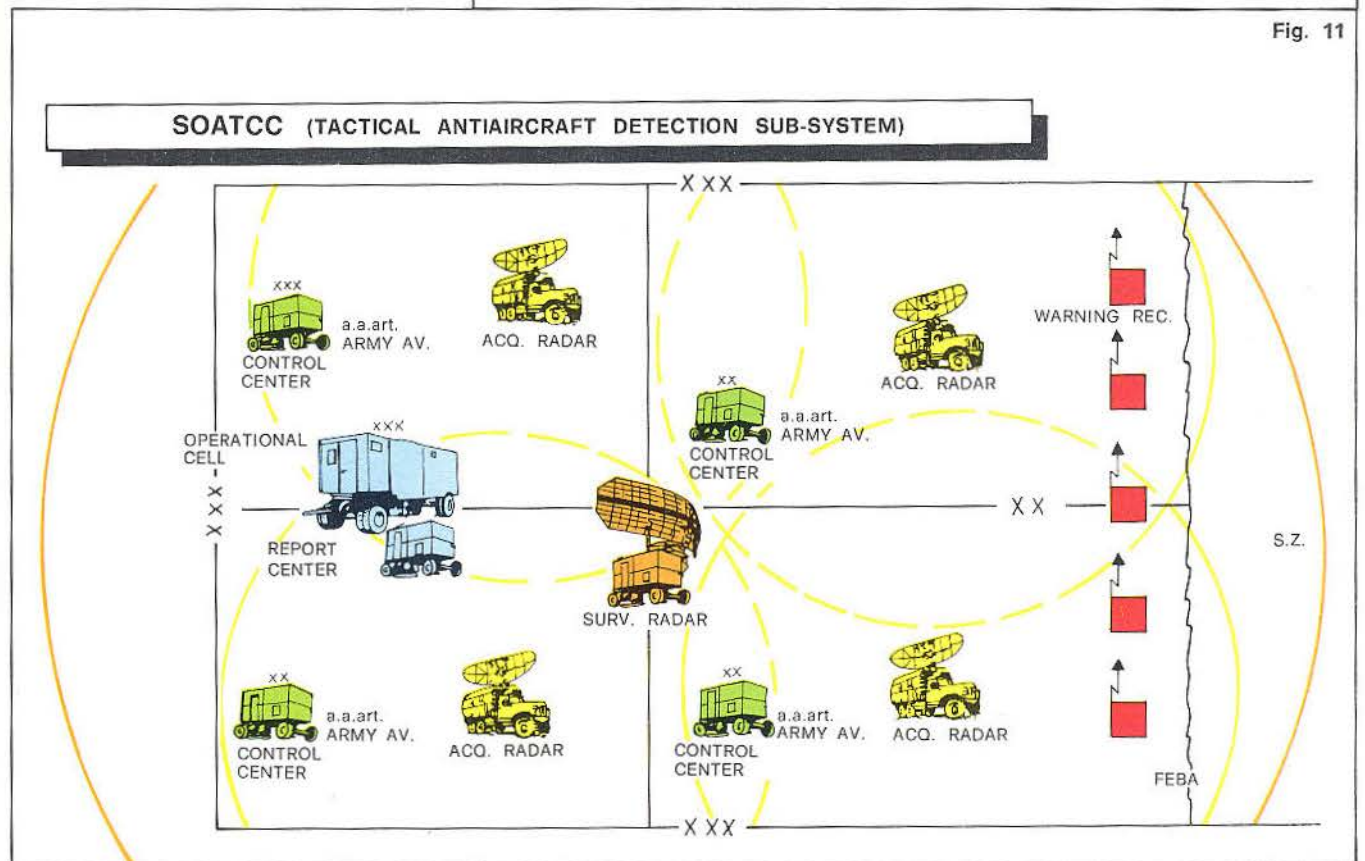
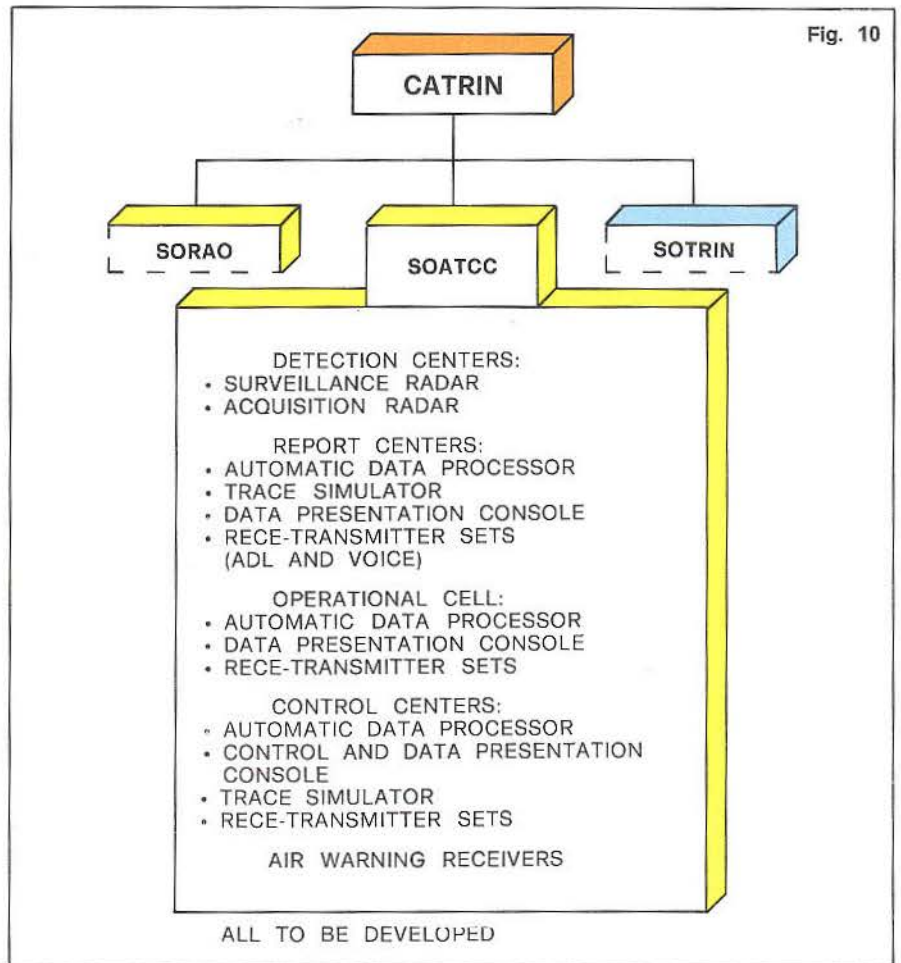
All this equipment is still to be developed.

Also SOATCC may be expressed in an ideal outlook as in Figure 11.

INTEGRATED COMMUNICATIONS SUB-SYSTEM (SOTRIN)

It includes (Fig. 12):

- already developed equipment (medium capacity radio relays – 15 channels – Multiplex Delta, intermediate concentrators);
- equipment under development (bulk cipher devices, low capacity radio relays, troposcatters);
- equipment to be yet developed



(single channel radio access-SCRA, system control module, terminal and access centers, NATO interface, high capacity radio relays, telephone terminals, fac-simile, user's chipper sets, multimode adaptors, field message dissemination posts).

For their remarkable influence on operations, two particular aspects of the SOTRIN subsystem seem worthy of mention: the sub-system structure and an interesting component of it, the so called "single channel radio access-SCRA".

The system structure is of an area type and permits to disengage the basic system elements – the trunk nodes – from the Command Posts deployment, with consequent higher operational safety: should a trunk node be destroyed, the Command Post is not involved and can

Fig. 12

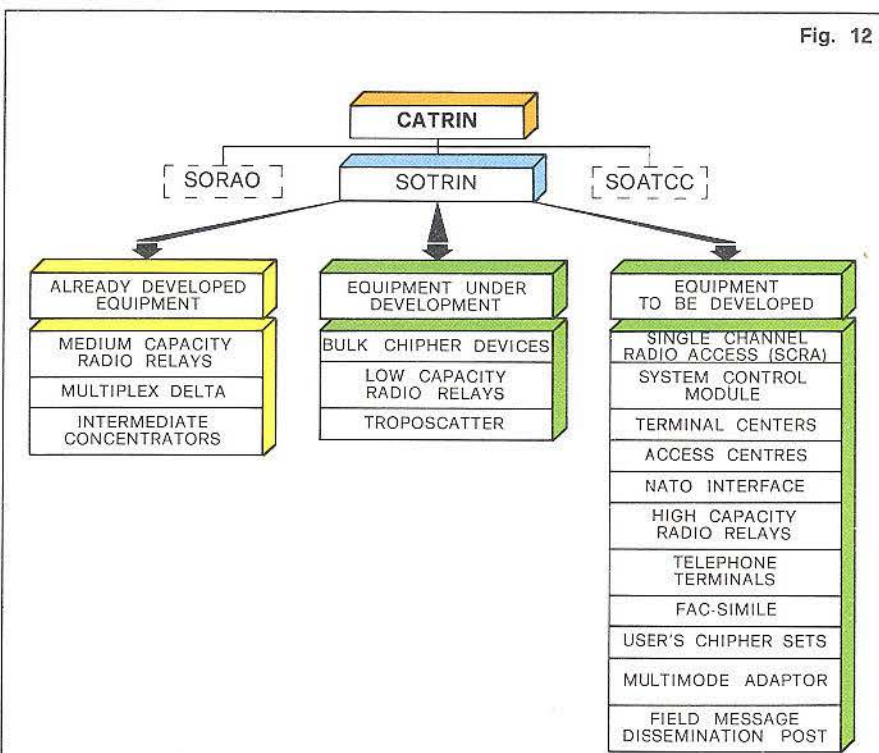
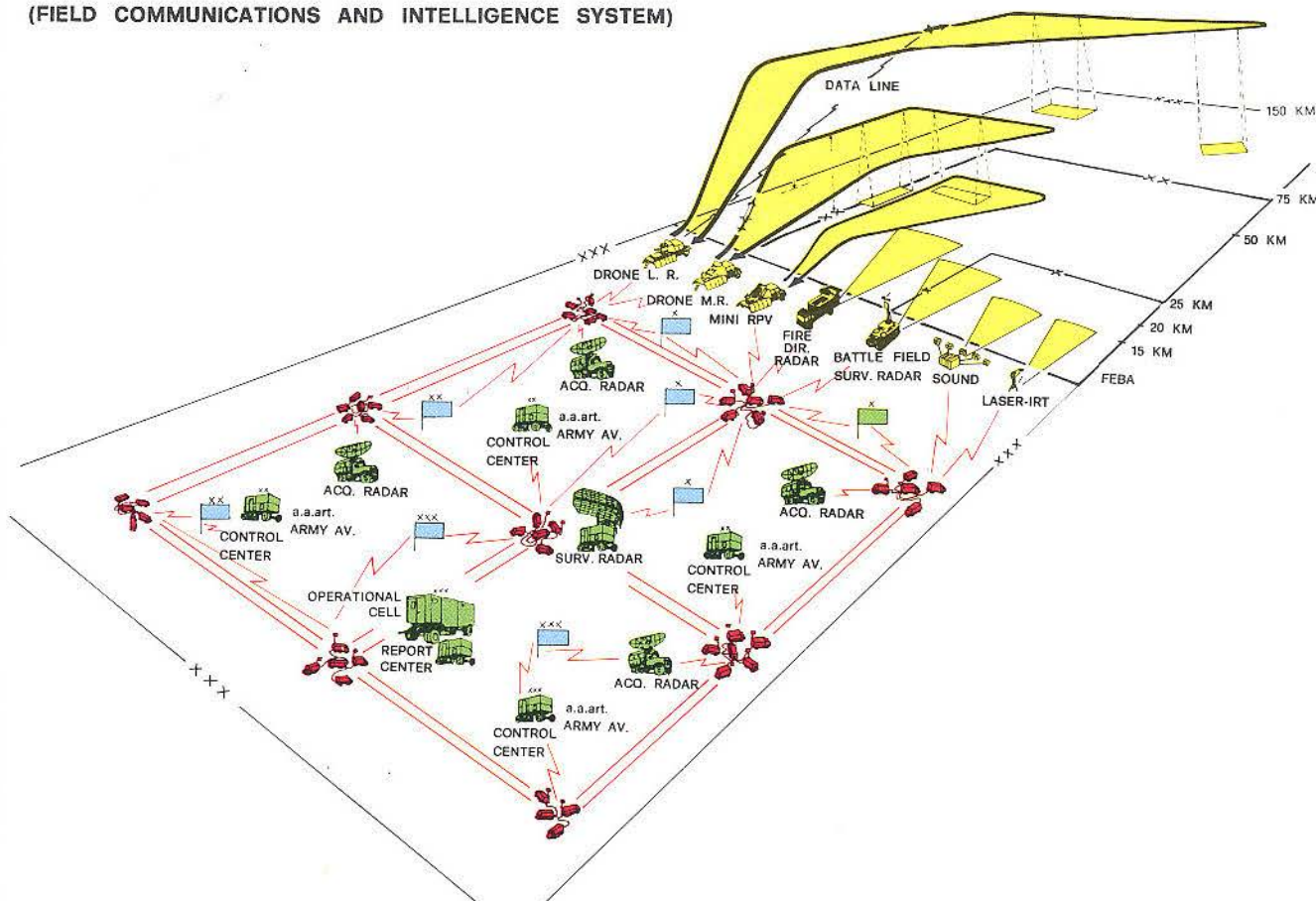


Fig. 13

"CATRIN" SYSTEM

(FIELD COMMUNICATIONS AND INTELLIGENCE SYSTEM)



reset its communications through another trunk node.

The "single channel radio access-SCRA" has been conceived to ensure communications to the more mobile users. (advanced Brigade HQs. with their tactical groups). The center is formed by a "SCRA-central commutator" and by the necessary number of "user radio terminals" required by a Command Post of the Brigade level.

In a broad outlook, CATRIN is symbolically shown on Figure 13, where SORAO is given in yellow, SOATCC in green and SOTRIN in red colour.

I wish to add that the CATRIN system, as a whole, has been conceived to grant the "communications" and "intelligence" functions up to the Brigade level (i.e. that the last users are the Command Posts which depend on the Brigade).

Fig. 14

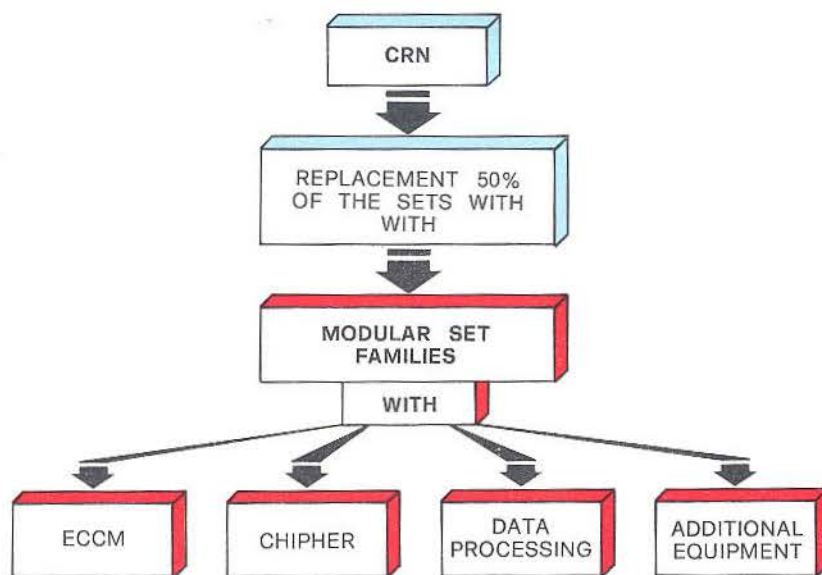
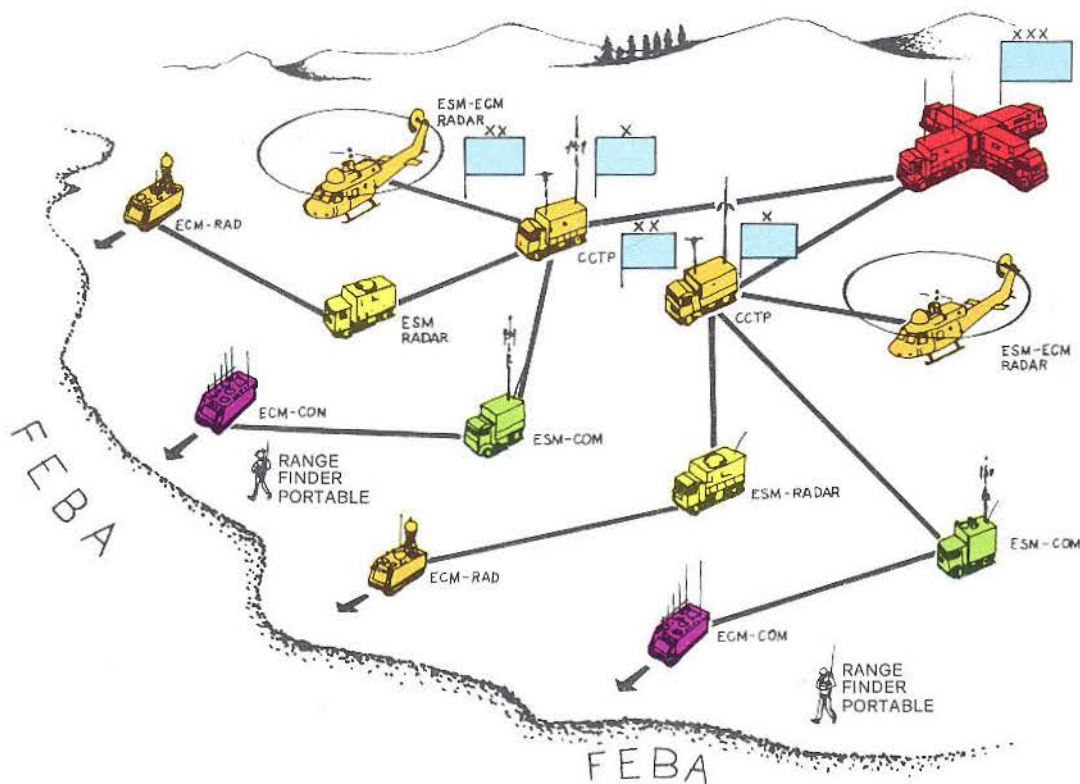


Fig. 15

ELECTR. WARFARE DEPLOYMENT WITHIN BATTLE AREA



Below the Brigade level, the much simpler functions are granted by the already mentioned combat radio network, which should remain as a "reserve" for the higher levels.

Before concluding this presentation it seems worthy to shortly discuss the programs related to the other C3I elements, parallel to the CATRIN program and such to permit their integration in it: the combat radio network, the electronic warfare, the field command and control and the NBC network.

COMBAT RADIO NETWORK

The modernization standard foresees the change of the 50% of all the equipment with modular set families, protected against electronic countermeasures, provided with chipper, capable of data transmission and with series of additional equipment for particular use (Fig. 14).

ELECTRONIC WARFARE

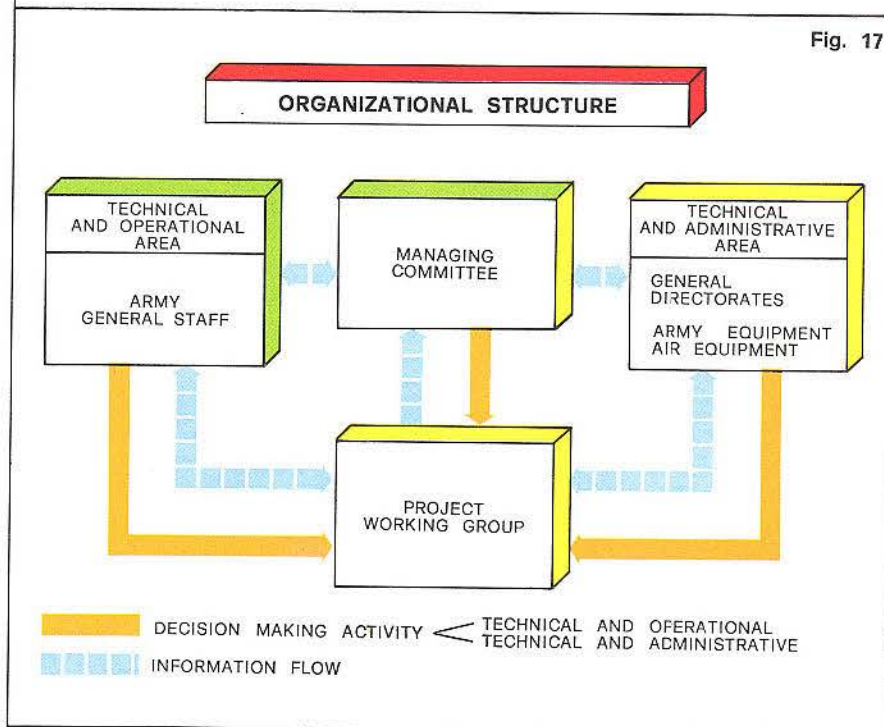
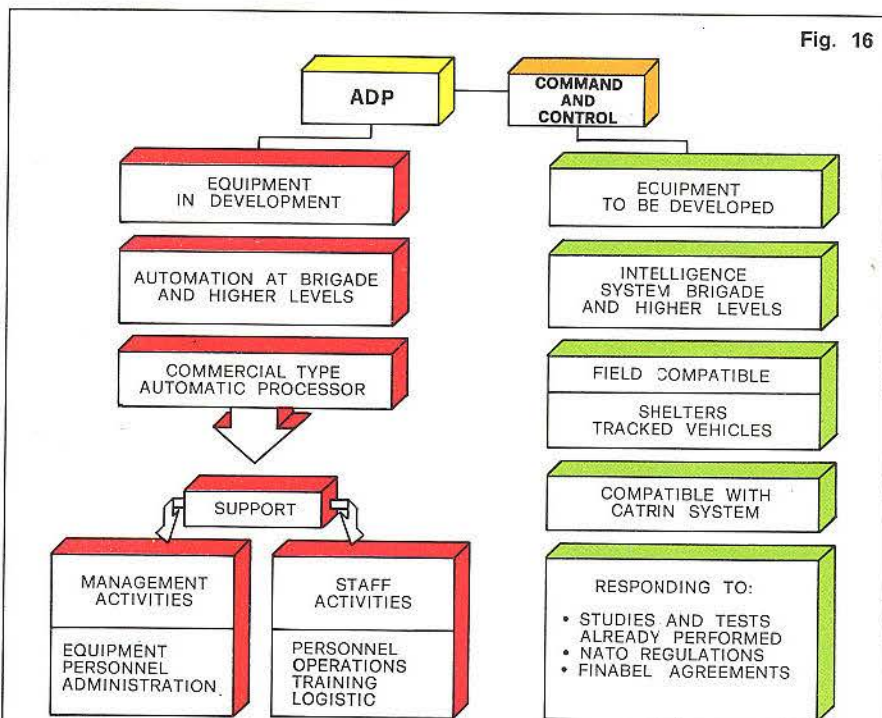
In this field, the principal Army programs within the communications sector are all in being; those for the non communications sector have almost all still to start.

In an integrated outlook, also the electronic warfare equipment should be compatible with CATRIN, eliminating any difficult interface problem (Fig. 15).

COMMAND AND CONTROL

The automation of management activities has been started even at the higher levels with the introduction of commercial-type computers employed by the local Headquarters to support logistical activities (at logistical battalion level), personnel and administrative management. Militarized computers, employed in shelters and/or tracked vehicles, are about to be procured; following the above mentioned concept of C3I, they should be associated and, therefore, comply with all the processing elements of the CATRIN system (Fig. 16).

Also compatible with CATRIN and with the NATO and FINABEL



regulations should be the C2 field system components, thus concluding some experiments already performed by the Army.

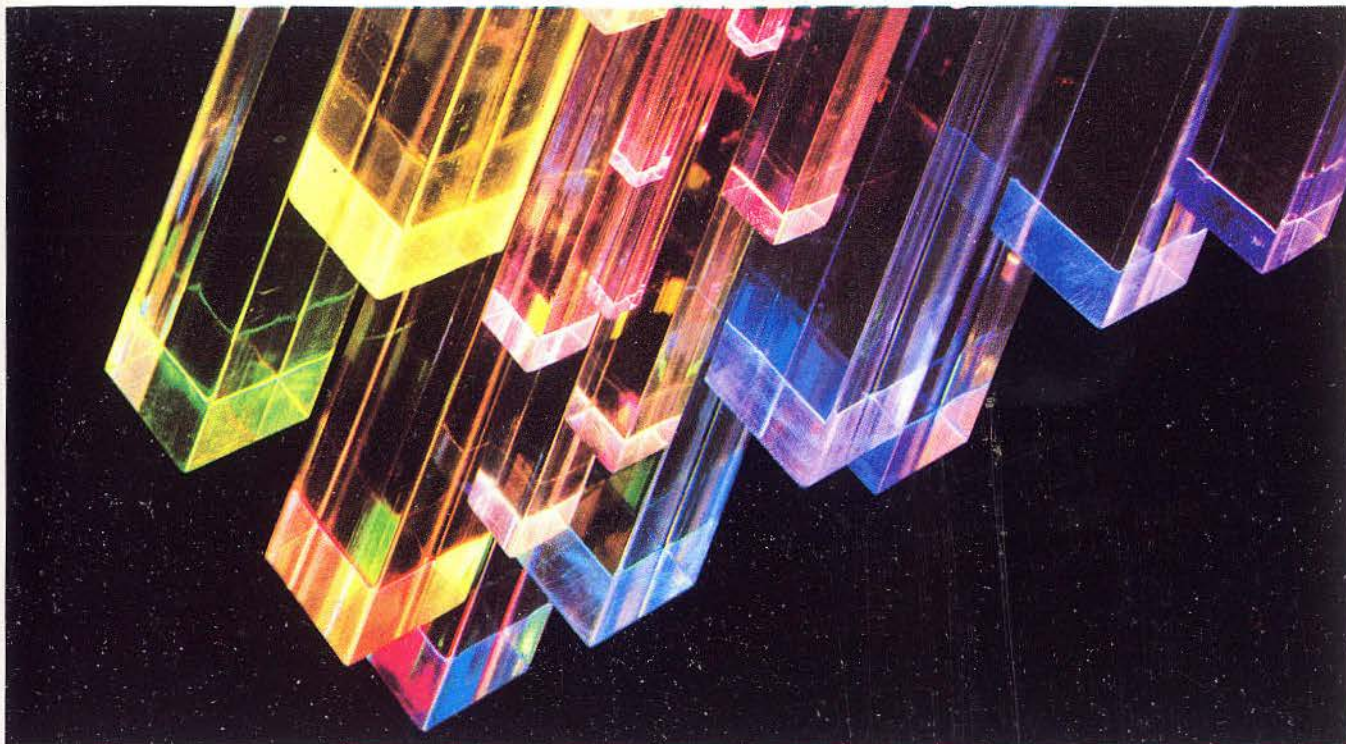
NBC NETWORK

For the sake of completeness and in the frame of C3I we should mention the NBC network as well. This is, however, a complementary activity, even if not

less important, which tends to modernize the existing equipment and to integrate the peace activities with the emergency requirements.

CONCLUSIONS

We have tried to completely outline all the activities already in being or about to start within the Army's C3I field mainly to



stress the unitarian concept on which they should be based to avoid any compatibility crisis from a technical but, even more important for the Army General Staff, from an operational point of view. This means a very momentous and difficult effort of consistency on a conceptual and organizational plan. We want also to stress that the Italian electronic and communications firms can have here an ample space of activity on the long run. The Army hopes that it will be possible for them to smoothly and properly operate in reasonable terms of time, even and above all in compliance with the international performances.

To guide the development activities of CATRIN the Ministry of Defense has set up a managing committee composed by top representatives of the General Staff and of the General Directories and a "project working group" with 3 sub-groups, one for each CATRIN sub-system (Fig. 17).

We firmly believe that unless the industries do the same, CATRIN will never start.

For the sake of common interest the Army hopes, therefore, that the industries associate between them on the base of

their specific activities, forming operational groups, one for each sub-system (respectively SOTRIN, SORAO and SATCC) and that these groups, intended to lead them, form again an integrated very light top level structure, capable of solving all the interface problems and to discuss globally with the Army on a consistency and system-like way.

In summary, three specific industrial groups, capable of working in parallel, but directed by a small *équipe* ruled by comprehensive and system-wise concepts and led by a personality above the parts.

We expect all this, and expect it soon, if we want to start on the right pace.

Abroad our program receives particular consideration. In fact, within FINAGEL and NATO, the CATRIN system is no more a mystery: should Italy lose such an opportunity, in a time when the whole of Europe suffers from the attack of emerging technologies, it would be extremely difficult to recover from it in the future.

A few friendly countries have already requested – be it even in the corridors of international meetings – to be authorized to cooperate with Italy on some

CATRIN's aspects.

We are, therefore, convinced that the industries will catch the opportunity offered to them by the Army General Staff and by the Defense Ministry.

Antonio Viesti

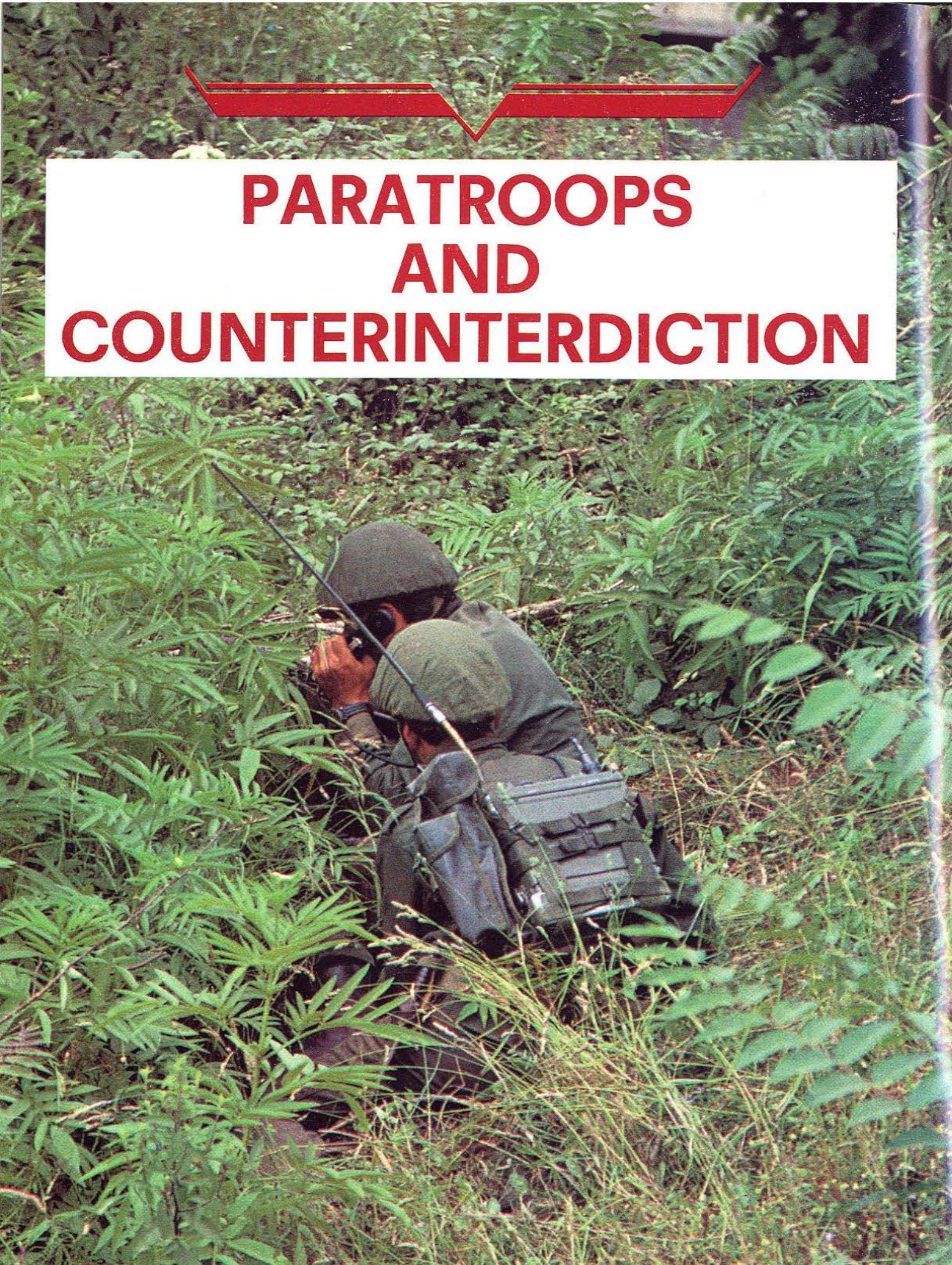


Divisional General Antonio Viesti has attended the Military Academy, the Instruction School, the 86th General Staff and Superior Course and the 12th Course of the Combined Staffs Institute. He has commanded the 10th battalion of the 132nd Tank Regiment and, later, the Regiment itself. He has been deputy commander of the 132nd Armoured Brigade "Manin" and commander of the Mechanized Brigade "Granatieri di Sardegna". He has been on staff activity with the HQs. of the Infantry Division "Cremona", the Defense General Staff and the 5th Corps HQs. At Army's General Staff level he has been: officer assigned to the office of the Deputy Chief of Staff; chief of the 1st Section of the Programs and Budget Office; chief of the Staff Secretariate of the Army's Deputy Chief of Staff; chief of the Procurement Programs Office and Deputy Chief of the 4th General Staff Branch and Deputy Logistical Inspector. His actual duty is that of Chief of the 4th Army's General Staff Branch and Logistical Inspector.

This article is originated from a presentation of the CATRIN system to the industries, carried out by General Antonio Viesti, chief of the 4th General Staff Branch, which took place on May, 19, 1984 at the presence of the Army's Chief of Staff, General Umberto Cappuzzo.



PARATROOPS AND COUNTERINTERDICTION



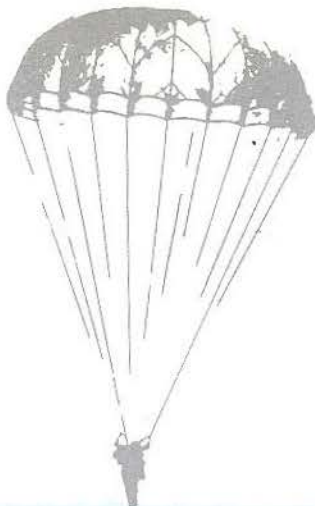
THE SCENARIO

Counterinterdiction is normally part of the measures taken to safely protect the communications zone from paratroops or other units, with an aim to hamper command, fire and supply activities, using techniques substantially based on surprise and developing a protracted wear-out action.

Whatever the operations in being, these areas are highly exposed to such sort of threat.

Proceeding to the rear of the frontline, the progressive lesser density of friendly forces leaves more and more space to the intrusion, the manoeuvre and the freedom of action of the enemy. At the same time, the initiative of enemy units of a very high operational effectiveness, as are those employed within our array, has to confront a less and less competitive reaction as more far from the contact line: this is a fact which derives from considering the quality, the mission, the armament, the means, the training and the "forma mentis" itself of the elements deployed on rear lines. There is, however, a deepness limit behind which the employment of enemy forces of high qualitative level would not be any more rewarding. In effect, it would only indirectly and not decisively contribute to the development of the principal fight. Such a limit, although not exactly definable, might be found in the theater rear areas. It seems reasonable to suppose that beyond the "rewarding limit", and only with some exceptions, the paramilitary guerrilla tends to replace the military interdiction.

Interdiction areas might be involved in guerrilla activities. If so, although a force coordination could appear likely, the two forms would not integrate. Guerrilla units might rather be trained, supplied or directed from outside by portions of special forces intentionally penetrated in the area, or the interdiction might exploit intelligence and supply contributions granted by local elements.



"Counterinterdiction" is a term not yet officially adopted; it means a particular form of fighting aimed at the neutralization of enemy military forces engaged to interdict an area.

An article on the same subject, published by the "Rivista Militare" in its nr. 1/1983, mentioned already the area interdiction performed by paratroops. It maintained that the forces organized for interdiction are also the more fitted to withstand it. We shall therefore briefly consider this subject, which appears complementary to the preceding one, in terms of close comparison.

Obviously, there is no reasonable preclusion to the employment of forces of a different kind, provided their suitable motivation and training.

On the other hand, the employment criteria and the typical forms to fulfill the mission are substantially valid both in case of situations where the enemy operates with military forces and following procedures similar or identical to those of the interdiction (and this shall be our case), as well as in the case of a confrontation with paramilitary forces acting on a guerrilla role even outside the combat zone.

The range of probable objectives of the enemy interdiction in the communications zone, from where the forward forces are supplied, is a large and various one.

Beginning with control and intelligence activities, we find there several command posts, even of a very high level.

Associated with them is the communications network with its primary and peripheral centers, installations and equipment in permanent or field deployment.

Here is also deployed the air space control organization having numerous components, some of which, subjected to technical limitations, given by the terrain, pose further safety problems. Other communications elements, such as knot centers, undergo similar limits.

As far as fire means are concerned, this is the deployment area for the field artilleries of major range, both conventional and missiles, together with special battlefield survey units, not to say of the integrated anti-aircraft defense.

Within the supply activity, the most sensible targets are of tactical as well as of logistical nature. The tactical ones are substantially deployment areas for divisional or higher level reserves. The others are given by supply control units of the 2nd and 3rd echelon.

A further sort of targets is formed by the helicopters deployments of the various roles placed there because of their contribution to the mentioned control, fire and supply activities.

Still more to the rear are even some aerial bases.

The surface movements against which the interdiction tends to concentrate should finally deserve particular attention. These movements derive from the normal control, manoeuvre and logistical support requirements, from fluctuations of the contact line, from changes within the forces, from safety reasons, from not foreseeable situation developments and the like. Almost all the elements al-



ready mentioned in their "static" version might be involved by these redeployments which engage, in both senses, the most part of the road system, be it parallel or orthogonal to the front line, not excluding the railroads of the theater rear area. In a defensive situation and to elude the enemy's aerial superiority these movements tend to concentrate in night time, being therefore even more exposed to ambush actions. They might run into sensible critical or risky conditions whenever the logistical and tactical deployment is subjected to important changes caused by an unfavourable evolution of the situation and, in particular, during a retreat manoeuvre.

The interdiction of movements might be extended and integrated with a similar activity directed against units and means of the traffic organization or against the road system itself through demolitions, obstructions, mines and similar devices, even remotely controlled.

Any interdiction action is particularly favoured by the mou-



vements as, for example: the possibility of an accurate preparation achieved in every detail, far from direct contact, with an aim of maximum offensive effectiveness and security; the choice of terrain; the sudden, violent and extremely short actions, sometimes performed only through fire, which might paralyze or stop any reaction.

On the other hand, the movement safety is reduced by the uncertainty about type, time and place of the attack; by the impossibility to listen and by the

difficulty to observe; by the extremely narrow range of passive measures which can be adopted; by the thin deployment of the units which appear highly vulnerable and scarcely fitted for effective and timely counter-measures or manoeuvres.

We have dealt at length with the friendly situation within the communications zone to better motivate some basic considerations: the possible objectives of the enemy interdiction are almost endless; many of them are of primary importance and very



extended (such as supply centers, for example). This makes it impossible to grant any defense, although limited, to the more important and stresses the need of a more realistic "surveillance", only with very few exceptions. To divert from other missions considerable portions of the reserves or of other units would be already an important success for the enemy. And what would result from it? The defense would permit, in any case, full freedom of action to the interdiction forces, whereas the risk run by a few objectives would be raised without assuring their immunity and leaving undefended many others. The probable threat appears, therefore, an extremely dangerous one. The enemy units are surely fitted to penetrate by any means; they are highly aggressive and specially trained for short fights in particular conditions, for evasive attitude and for the capability to survive in enemy environment. Their light and sophisticated armament might include antitank, anti-aircraft and mortar components, which make them

able to operate even from considerable distances.

They disperse within ample "sanctuaries" escaping identification and avoiding to form rewarding targets. They seek contact and combat only in absolutely favourable conditions through numerous and coordinated actions of small patrols, by ambush, sudden attack and sabotage techniques. They perform, at the same time, an important intelligence activity. They are mostly supplied through local resources or by air.

The interdiction might find some limitations caused by the terrain and the population. What appears essential to permit refuge during the pauses between the actions, is the availability of inaccessible and covered areas or of evacuated built-up zones. To case the maintain of a clandestine attitude, support or... absence of the population are equally necessary.

Whenever the enemy should utilize a built-up area as a sanctuary, particular techniques are requested.

The bivouacs within woods are organized with an alarm system able to grant to the resting units a suitable warning time before their identification and to permit them a timely escape from any direct and dangerous mop-up action, moving towards a subsidiary and pre-organized different bivouac. In a built-up area such a procedure is not applicable because the retreating movement could not remain unobserved in daytime. The actions within built-up areas, on the other hand, require from interdicting units more time for research and offer better conditions to the local defense awaiting for night time sorties.

In fact, in built-up areas the counterinterdiction tends to make use of armoured vehicles and of heavy weapons; it is obliged to proceed cautiously knowing that the enemy, when in difficulty to escape from contact, might be pushed to react without leaving his positions.

One fact is certain: any defensive attitude represents, by itself, a defeat for those who adopt it and the simple arrest of the interdicting units is considered a success of the opposing forces.

THE LINE OF ACTION

Why not prefer a strong offensive attitude to neutralize the threat at its origins or, at least, to limit any enemy's initiative and operative freedom, instead of spending forces to cover too many objectives with problematical possibilities of success and a broad manoeuvre space left to the opponent? This is the why of counterinterdiction. In numerical terms, a complex to company size in interdiction action is organized with an area command post and a maximum of six patrols: in total, only seven small objectives for the counterinterdiction. How many are, instead, the objectives – mostly broad – to protect, considering that an interdicting company covers an area of 200 square kilometers and more, equivalent to about 50% of the

rear area of a division in defensive attitude? Certainly many, many more. It seems simple: but it would be superficial not to take into account the enemy's degree of "unseizability". In other words, the few objectives to attack are not so well known as the many to defend. Which, although conditioning the execution, does not invalidate the consideration put as an interrogative at the beginning of this paragraph.

There is no question, here, to neglect and underevaluate the normal safety measures taken for the rear areas of the combat zone. On the contrary, it seems convenient to couple them, when needed, with a fighting

ison with those who interdict. This is a fact of great importance within the economy of the forces, far from the superiority ratio normally considered between attack and defense, on one side, or – which is our case – between guerrilla and counter-guerrilla, on the other.

From a qualitative point of view, the counterinterdiction must be performed by units similar to those of the enemy. In this sense the paratroops are precisely a good term of reference; moreover, such sort of an engagement is already considered normal for them.

In general, because of the need to adapt the units to the enemy's organization, the latter

During the action and in conformity with its developments, change concerning the distribution of forces and even the limits of the responsibility area are foreseeable, whereas each patrol can be considered as a reserve and, as such, diverted – if necessary – from its normal mission to face contingent events.

The company command post, also light in strength, must rapidly reach the employment area not forming, at the same time, a persistent target.

The patrols are normally inferior in size to those of the interdiction: not more than a dozen men. It is necessary, in fact, to keep a maximum of agility. Differently from its oppos-



form requiring fewer forces but of high quality, completely independent from defensive missions and decisively projected against the interdiction array. Any defensive, subjective or waiting attitude in front of the enemy would be losing from the beginning and must not be taken into consideration.

THE FORCES

The quantity of forces should be substantially even in compar-

tends to be similar in structure, deployment and procedures. Being so, every interdiction area is covered by a counterinterdiction one, committed to a complex of company size and organized with a command post and a variable number of patrols.

At the beginning, the undefined enemy situation and the need of sudden interventions force the company commander to avail himself of a reserve, whose strength is estimated in one patrol.

ing part, the counterinterdiction does not need antitank and antiaircraft weapons, mortars or explosives, nor high logistic autonomy. Part of it may be kept, if that be the case, in reserve and employed only depending on circumstances.

The choice of the initial command post and patrol deployment areas is made likewise interdiction forces do; ideally, the opposing positions should coincide so as to reach the contact as soon as possible and

to impose, in any case, a certainly not... welcomed proximity.

The company deployment is completed by some mobile observation and listening posts. Each of them is formed by a couple of men, mostly located at the outskirts of the interdiction sanctuary. They maintain under control points of fixed passage and the itineraries to the aforementioned zone and viceversa, keeping hidden and in direct link to the company command post.

The tactical control of the counterinterdiction companies is maintained by their battalion command post deployed not far from the Rear Area Headquarters, fully responsible for security. When only one company is operating, its command post remains within the action area, sending a liaison element to the Rear Area Headquarters.

The battalion and rear area command post leads, coordinates and supplies its depending forces.

A determining contribution might be offered by the Army aircrafts and, if available, by elements of the electronic and psychological warfare, by those specialized in P.O.W. interrogation or by units employing dogs.

The aircraft, normally controlled by the battalion or the rear area headquarters, perform local reconnaissance, tactical and logistical transport and fire missions, in connection or not with the patrols.

The other elements, controlled by the same headquarters, except the dog units, achieve interception or decoding, jamming and localization of enemy communications and collect updated intelligence data, readily usable.

The dog units, mostly allotted to the patrols, are very useful for research and have not negligible psychological effects.

INTELLIGENCE AND COMMUNICATIONS

The problem number one, common to many forms of special warfare, is given by the difficulty to locate the targets so as to

establish and maintain contact and then proceed with resolving actions; these conditions are not achieved when the contact is sought, at its own benefit, by the enemy under its proper forms and timing, as already described.

What is needed is to assume the initiative and not to be subjected to it. An aggressive attitude should mark the collection of intelligence. Its research activity, in particular, should foresee a full and uninterrupted utilization of all sources and means, in a way to exert a real pressure on the enemy, to compel him to worry for his security and, therefore, if not worse, to determine the decay of his initiative and

sure and activities contrary to his own choices. The ground observation, covered, mostly performed in nighttime and more dangerous, cares to discover the enemy's movements such as his way to approach the objectives and to return to bivouac, his reconnaissance, his water, food or similar supply, his aerial supply, if any. All this aiming to impose delays, detours, lack of security and a feeling of subjection, not to say of even more important outcomes.

The most detailed information concerning the terrain might be a twofold superiority factor: it can ease or speed-up the friendly action, on one side, and foresee, prevent or hamper



of the rhythm of his action. We have here, in other words, an intelligence activity which exceeds the limits of tactics. A typical example of this is given by the aerial and ground observation. The first one, openly performed during day time, is concentrated towards the sanctuaries, trying to discover where the enemy bivouacs, keeping him in a consuming psychological condition, always in fear or doubt to be discovered and compelling him to undergo mea-

the enemy's action, on the other. The possession of it requires the study of a broad documentation, preventive reconnaissance and the easy availability of local or, at least, experienced personnel.

Among the intelligence sources, the civil population deserves some special consideration, due to the weight that her attitude may exert on the intelligence activity, both offensive and defensive, of the two contenders.

First of all we shall say that the support given by the population, at least for the counterintelligence, is essential to any interdiction activity. It can be kept, however, to a minimum of passive neutrality; if not so, any contact with the population must be avoided. This is clearly impossible within areas of high demographic density, apart from an exodus. Depending on its attitude, the population may always be divided into three categories: those who are willing to cooperate with the national forces, those who are neutral and those in favour of the enemy. The changing of the situation may determine percentage variations of these three categories, whereas the said articulation remains unchanged. This is possible because of many reasons: from the mere ethical ones, like the political-ideological motivations or the vitality degree of the national or allied spirit, to others of less noble nature like fear, grudge or an even more trivial and simple convenience.

In any case, the situation must never be considered as static. Many examples, and some recent too, show that the population, if properly stimulated, reacts very rapidly in a positive way.

Within this form of warfare, although poor the outcomes, nothing should be left aside to turn at own advantage any consent and support from the enemy. Even a small fact may be useful to break the circle of elusiveness around him and produce, as a consequence, devastating effects. The available means are mainly the psychological activity and, even more, the attitudes maintained. The first one, formulated in its broad lines by the high level headquarters and carried out by special units, should be supported by local and well finalized initiatives in close connection to the specific situation. As far as attitudes are concerned, the demonstrations of effectiveness and professional capability, the firm actions, coupled with generous and friendly relations, are

all elements which grant the popular favour. Which is lost, on the other hand, by violence, in general, by retaliation, by imposing useless, excessive or not well understood limitations or inconveniences.

At the beginning of this paragraph, communications have been associated with intelligence. The latter, in fact, because of its importance and its particular aspects, directs their organisation.

Counterinterdiction requires very quick actions; on them lies every prospect of success. Under this aspect, intelligence is not an exception because its utilisation is strictly related to the entire development of any maneuver.

In fact, gathering and circulation of intelligence data requires a communications system based on following, sometimes contrasting, features: the pulverization and mobility of the researching elements, all to be kept in contact without any intermediation; the necessity to equip the dismantled units with very

light radio sets ensuring, at the same time, a full reliability of the communications network; the convenience to prefer rapidity and clearness to secrecy, considering as not existing or at least problematic the possibility, for the enemy, to intercept, decode, locate or even utilize our messages.

All this considered, the communications system should principally be based on a wireless network, largely utilizing very light and small sets. The "electromagnetic visibility" between the posts, whatever their deployment, is essential to the effectiveness and continuity of the traffic. Moreover, it seems necessary to reduce any "sound effect" within the whole action area by a proper deployment of relay posts; these are elements easily and quickly provided and, whenever the need, restored.

To make the system even more functional and to comply with the needs of all users it seems possible, for example, to shift temporarily from one net to the other; to keep in uninter-



rupted activity some sets and use others irregularly; to employ messages of prepared and standard format.

THE FIGHT

The comparison between interdiction and counterinterdiction shows peculiar aspects. Both forms of combat operate offensively trying to impose their own initiative without becoming an objective for each other. In fact, whereas the counterinterdiction is directly and solely projected against the interdiction deployment, the latter tends, on its side, to elude any confrontation and to hit the objectives of the communications zone already described in our previous scenario. The enemy acts, therefore, during night time, far from the sanctuaries where he returns and hides by day to recover his operational capability. The units of the opposing side gravitate instead, within and around the sanctuaries: during day time, when the enemy bivouacs inside, to surprise him with dynamic

actions led and supported by helicopters; by night, occupying ambush positions to intercept the traffic from and to the sanctuaries with the support of the observation and listening network. The time of engagement of the counterinterdiction forces in one or more areas of action depends on the available intelligence. The possibility to precede infiltration actions of the interdiction forces appears simply unthinkable: it would mean, for the enemy, the total failure of any initial surprise and the loss of many possibilities of success. Moreover, it must be considered that the enemy is frequently able to modify, even at the last minute, time and space parameters of his manoeuvre, thus invalidating the counterinterdiction's preventive deployment.

In general, the first actions shall reveal the presence of the enemy and dictate the time of any attack. Nevertheless, some measures might be adopted previously; they are based on forecasts of possible enemy actions,

on the study of available documents, on reconnaissance and on other measures taken to prepare the forces.

All this considered, we shall now briefly outline how the mission is fulfilled. In this context, the operating forces find an ample space for conceiving capability, determination, pertinacity, boldness and physical resistance.

The patrols are the basic element. Each of them acts in an area of own responsibility which coincides with the area presumably used by an enemy patrol as its sanctuary.

By day light they search, eliminate or capture all the possible elements of the opposer's deployment: bivouacs, hidden storages, isolated men, weapons, documents, equipment; directed by the company headquarters, they select secondary itineraries due to their good knowledge of the terrain and of the enemy; they collect, propagate and utilize without interruption every indication or trace of the enemy's presence or passage, avoiding its decoy or diversive measures; they proceed rapidly, without stopping and reduce to a minimum their safety measures being confident that the enemy has the need to elude, in any case, a direct encounter which would originate serious consequences for him, such as the immediate engagement by helicopters and/or by the reserves; they act with caution only when this gives them the possibility to attack by surprise an objective already located through raid techniques; once contact is established, they maintain it by all means, informing their headquarters and proceed to attack decisively at the right moment, up to the elimination or capture of personnel, documents, equipment; in close adherence to the developing situation, they keep ready to split their forces down to couples of men.

During night time all this is different. Since the enemy is the one who moves, the patrols perform mainly a static activity, concentrated on fixed points or stretches and based on obser-



vation, listening and ambushes. Mouvements to start a raid could take place only if based on clear intelligence about the resting enemy elements. For example, a decision to concentrate counterinterdiction forces on objectives already attacked by interdiction patrols, to start their research, would be an unproductive waste of energies and time. Although rapid the action, the enemy would certainly have time to escape.

The range mopping-up, always convenient after having been attacked, must be carried out by other forces. With an only exception, however, i.e. when the enemy is in trouble either to brake contact or because of his losts during the action. In such a case, a rapid counterinterdiction action may result timely and rewarding.

By night the patrols deploy at the outskirts of the enemy sanctuaries to keep under control the most probable routes of escape and re-entry. Each patrol must be organized with a small alert element in coordination to the observation network and with another, more strong, ready for rapid ambushes.

The selection of the ambush positions is made through a good knowledge of the terrain, of the possible enemy actions and through constantly updated intelligence from various sources.

Besides being properly fed, the reserve must be employed only for decisive engagement itself must be ordered only after having established a contact and if the same can be maintained for the necessary time. Sorties conducted in vain are too risky.

A reserve, both of forces and of fire, is always available for counterinterdiction.

The fire reserve, normally kept at battalion level, is formed by attack helicopters and is engaged to support other forces or in an independent mission. Reconnaissance helicopters are not part of it; they cover a different role and are armed mainly for self-defence.

The reserve force, split into patrols, stays at company level or higher; it is deployed in proximity of the command post it depends from and is highly mobile on wheels, track or helos.

The nighttime environment or bad weather conditions hamper seriously the missions granted by the helicopters. The presence of woods or of rugged terrain might cause problems for their landing and require the descent of personnel by ropes, ladders or by jump, keeping the helicopters "hovering".

The reserve might be employed to reinforce the action of one patrol thus reaching a local superiority, to concur to the pursuit of the enemy blocking his escape routes to conduct independent actions against already located elements. In any case, the engagements take place under the control of the local commander.

For what was said up to now it clearly appears that exceptionally high qualitative performances are essential for all the actors.

A constant engagement is required, in particular, from the patrols which operate mostly isolated, with difficult terrain conditions and on a very elevated risk threshold. They must not be diverted from their mission for less than two days; otherwise, all the experience acquired little by little would be lost.

However, after this period of time, their psycho-physical stress reaches such levels that a progressive rotation of the more tired men with elements from the reserve appears advisable thus preventing any interruption of the fight.

In this contest, the logistical autonomy granted to the patrols at the beginning of their engagement should be of two days. Later or exceptional supplies, as well as the removals, are performed by land or air means.

The intelligence acquired allows to clarify progressively the existing uncertainties concerning the terrain, the limits of the area attacked by the enemy, his objectives, the techniques

used, the outlines of the sanctuary and the composition and organization of his forces. This permits to steadily adjust forces and procedures to the situation. The enemy, from his side, does the same. What really counts is to make maximum profit from every advantage acquired: the higher mobility deriving from lighter air and land transport means; the air fire superiority; the larger possibilities of tactical and logistical supply; the lesser need of safety measures; a better command, intelligence and communications organization.

The success is measured not only and so much in terms of losses imposed to the enemy, as more by the type of initiative that he had to give up once paralyzed by our pressure. It might well be that in an operational cycle the counterinterdiction does not achieve contact with the opposed forces and that these, however, are so closely followed up and worried for their survival that they are not able to attack any objective and are compelled to slip out.

CONCLUSIONS

The counterinterdiction demands a qualitative solution of the security problem within the communications zone. The particular nature of the enemy to confront requires an engagement of forces capable of adequate performances.

Our paratroops respond perfectly to this need: this is confirmed by tests, discussions, training experiences and by the results obtained. Their inclusion within our reserve forces at the highest level makes their engagement even easier.

But nothing is resolving and definitive in this matter: there is always space for new ideas and experiences.

Col. Giovanni Giostra

PARATROOPS AND COUNTERDICTION

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THE PARAMETERS OF THE CHOICE OF ARMAMENTS



Close support aircraft "Fairchild A-10 A".

The parameters on the basis of which armaments are chosen are numerous and sometimes contrasting.

I would consider, first, the **international scenario** of which, in a given historical moment, a nation is part. Second, the threat, seen quantitatively and qualitatively, which has to be faced. Then, the **foreseeable characters of the war** which, presumably, will have to be fought. The **geographical environment** also has its importance. Finally, the **scientific progress** and the **available financial resources** have a determinant weight.

Let us consider these parameters one by one.

The **international scenario** in our case identifies with our partnership in the Atlantic Alliance, and consequently, our being part of its military organization.

The Atlantic Alliance was created, for defensive purposes, when the public opinion of the West – the same public opinion which is rightly allowed to discuss every problem, criticizing, sometimes harshly, the choices made by parliament and government – requested a prompt demobilization, while the Soviet Union was keeping a strong military apparatus, making no mystery of its intentions to spread its ideology to the West, in a direct or a mediate form.

The defensive aims that the Alliance pursues are in line with our Constitution, which at art. 11 "repudiates war as an instrument of offence to the freedom of other peoples and as a means for solving international controversies", while art. 52 sanctions that "the defence of the Fatherland is a sacred duty of all citizens" and that "military service is compulsory".

The defensive character of the Alliance, as well as the words of the Constitution, have prompted someone to distinguish between offensive and defensive weapons, and to maintain that we should have only the latter.

To refute this thesis, which in its apparent simplicity can have a hold over the less-informed strata of the public opinion and is exploited, in good or bad faith, by the pacifists to demand a reduction of military expenses – on the pretext that the defensive arms, considered less sophisticated and less expensive, are sufficient for a country which like ours, does not have expan-

sionist goals – we observe, first of all, that it never existed, and does not exist today, either an exclusively offensive war or an exclusively defensive one.

In fact, those who take the initiative of military operations, cannot attack everywhere, however great their superiority, but choose one or more directions for their effort and on this – or these – concentrate the main part of their potential, while prudently waiting in the other sectors. Similarly, the defenders cannot avoid undertaking counteroffensive actions, either to cut the penetrations through the gaps of their defensive system and reestablish the integrity of their positions, or to resolve in their favour a conflict which would turn them into losers if they were to crystallize in a defensive attitude.

Likewise, there are no weapons employed exclusively for attack and weapons good only for defence. All arms, whatever their nature, degree of sophistication, range and single hit effect, have the purpose to inflict losses to the enemy, in order to preclude him from attaining his goals, be they offensive or defensive. For this reason, the only distinction having a conceptual validity must be made between the arms, viewed as means capable of causing damages, and the protective equipment. But this, widely employed in the epoch of sidearms, in the form of helmets, shields and armours of all kinds, with the appearance of the firearms has lost all its importance, due to their inadequate resistance and to the hindrance to movement that their weight created. They survive in the modern armies either to reduce the vulnerability of the most exposed parts, as is the case for helmets, or to counter certain types of offences (masks and special garments for NBC protection).

On the other hand, it is true that a certain type of weapon, owing to its characteristics, can be more suited either to the attacker or to the defender. For this reason, for example, the arms with a direct trajectory are more useful to a defender than to an attacker, for the latter must advance, and often without cover. On the contrary, the arms with a curved trajectory help more the attacker, for they allow him to "dig out" the defender, who keeps under cover as much as possible.

Since, as we have observed, the attacker cannot act continuously and on all sides, and the defender cannot avoid offensive reactions – more or less numerous and substantial, according to the doctrine that guides him – the consequence is that all armies have both types of weapons at their disposal.

Similarly, the antitank arms, essential to the defender for opposing the armoured formations on which the attacker relies, are also useful to the latter, both when there are pauses in the offensive and to activate the defensive flanks, which he will have to create within the framework of a correct manoeuvre, aimed at gravitating



Medium range antitank weapon system "Folgore".

only on the axes of high tactical and strategic advantage.

And even tanks, today's symbol of the power and offensive capability of an army, must be present in adequate quantities also in the arsenals of those countries which condemn all wars of aggression, under penalty of creating an imbalance between their forces and those of their presumable enemy, an imbalance that could annul their still legitimate will not to give in to overbearingness.

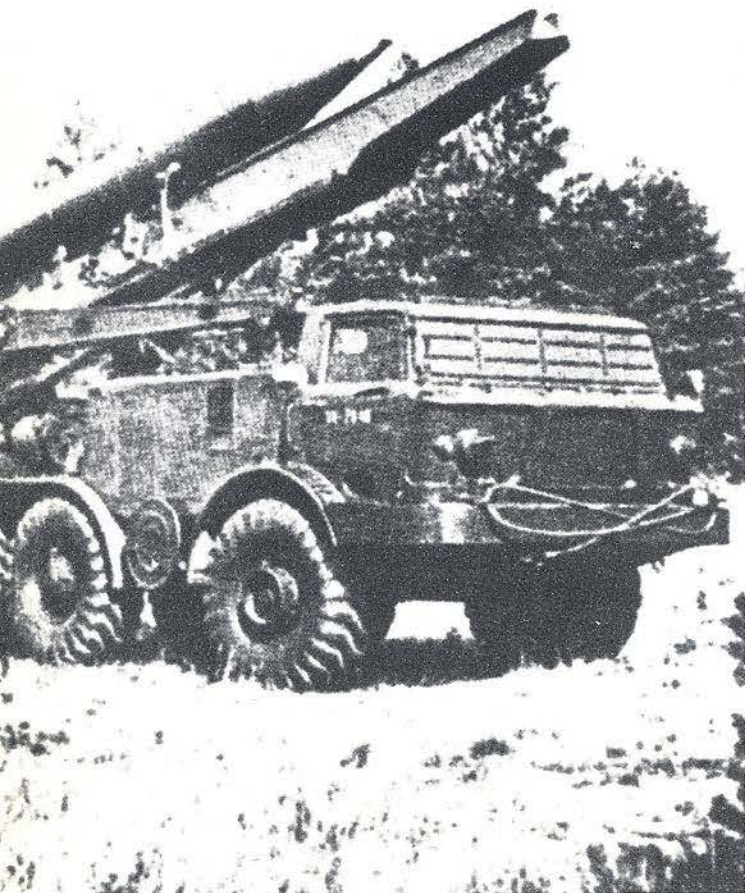
It is unnecessary to add that the most terrifying tool of destruction and psychological intimidation known to man, the nuclear weapon – against which, rightly, the pacifists' darts are aimed, and which no one more than the military who, better than anyone else, can evaluate its devastating effects, would like to see banished – which is present in very large quantities in the dreadful war arsenal of a country which, owing to its ideology and actual behaviour, makes no mystery of its intentions to impose its supremacy on the world, has allowed a purely defensive Alliance such as NATO, equipped with conventional forces barely sufficient to check an aggression, to live peacefully for 40 years, improving the welfare of its peoples.

On the mere military plane, our belonging to the Atlantic Alliance translates into a clear location of the frontiers more exposed to a possible attack, as well as in the possibility to benefit by the participation of the other members of the Alliance and, above all, by the nuclear cover provided by the United States.

Infrared-guided "TOW" antitank missile system.



Soviet "Frog 7" tactical missile, capable of carrying nuclear, chemical or HE warheads.



The most exposed frontier is, as is well known, the northeastern one, where operations would have an almost exclusively air-land character and the aggressor would aim at the heart of the Po Valley, both in the intent of breaking the continuity of the Atlantic positions and to seize the breathing lung of the Italian economy and, in so doing, to compromise our capability to resist over a long period, improving at the same time his own war potential.

The warning times of a possible offensive against our northeastern border can be expressed in terms of hours, up to a maximum of five days, for land operations and in terms of minutes for air attacks; consequently, our troops must have a very high degree of operational readiness.

Nevertheless, in these last years, some factors, such as the increased military capabilities of countries bordering on the Mediterranean, the rising – or worsening – of hotbeds of tension in the same area, the build-up of the Soviet navy – especially of its amphibious component – and, conversely, the diminished air and naval presence of the United States, have altered the picture previously outlined, spreading the menace to our coasts, and particularly to the islands, influencing the dimensions of our operational instruments and their characteristics, mobility first of all.

The analysis of the **threat** is centered on the evaluation of the opposing forces, a ratio that shows a worrying Soviet superiority, much greater than the 2-2.5 to 1, which would permit the defender to block an attack within a certain depth while waiting for the expected reinforcements. The figures of such superiority are well known and the differences that can be found in the sources – more or less biased – from which the figures come, do not seem to disprove substantially the overall evaluation expressed above. I will just say that, concerning the abovementioned northeastern border, we can expect to be stormed by about 20 divisional formations, i.e. about 60 Brigades with more than 4,300 tanks, 2,700 guns, 2,300 aircraft and a very high number of combat helicopters.

Still with reference to the threat, I shall dwell on a concept that allows us to understand the different points of view from which the threat is seen by the two opponents; this concept has been acutely analyzed in a writing by Gen. Bernard, one of the most brilliant generals serving in our Army and former military attaché in Moscow.

After stating that a distinction must be made between the **war power** of a country, or group of countries, consisting of its global resources (human, tactical-scientific, financial, economic, etc.), including both the peacetime Armed Forces and those that can be mobilized in an emergency and can, in any case, be exploited and employed for war purposes – and **rapid employment forces** – which are the land, naval and air forces that already exist or that can be readied within a few days – General Bernard observes that, as the GNP figures show, the war potential of the Atlantic Alliance is clearly superior to that of the Warsaw Pact, while the balance of the rapid employment forces is about even, if the considered forces are those available in all the territories of the two blocs, but it is decidedly in favour of the Eastern bloc if the evaluation is limited to the forces stationed in Europe; all the more so because the Soviets can very rapidly dispatch to the frontiers with the West also the units now stationed in a rear position, which usually are not taken into account, while the US troops need a much longer time to cross the Atlantic and the crossing is exposed to the dangers posed by the mighty Soviet submarine fleet.

It follows that, while for the West a balance of forces in Europe would be an ideal condition of security, the same is considered by the Kremlin a condition of insecurity, worsened by a psychological reason: the complex of being surrounded by the hostile peripheral countries, a feeling that the Soviet leaders have inherited from the czarist empire. Exactly for this reason, according to its strategic conception, the Soviet Union, to defend itself, but also in conformity with the principle that the contraposition between the capitalist and the communist world must end with the destruction of the former, wants to have at its disposal forces capable of conquering Europe in a very short time – about 30 days – before the US can transfer its reserves to our continent and activate its mighty war potential. In so doing – according to Gen. Bernard – the Soviet Union, moreover, would seize all kinds of resources in Western Europe and would put itself in a position to endure a long-lasting conflict against the superpower of the capitalist world. Finally, and to sum it up, the West seeks an equilibrium reasoning in terms of a confrontation, on the continent, of ready-employment forces, while the Soviets reason in terms of global war potential, where they are objectively in a situation of inferiority.

This is the theory expounded by Gen. Bernard: a theory difficult to confute, which I personally share without reserve.

Now let us proceed to the **foreseeable characters of a future conflict**, a parameter for which we refer to the laws of the evolution of war.

It is commonly agreed that war follows certain laws, some of which – the law of offensive, the law of movement, the law of force, and so on – define its nature and teach us, if we follow them, to make war in the best possible way, while others, called precisely laws of evolution, give us a notion of the trends of the development of war, and therefore allow us to prepare ourselves to face it adequately, should it again – *quod Deus avertat* – bathe the world in blood.

Among the laws of evolution, those of persistence, amplification and acceleration are particularly important.

The first, confirmed by historical surveys, tells us that, for all the technological progress, the belligerents are influenced by the features of the preceding conflict, so that the first clashes have the aspect of a rectified, enlarged and even exaggerated copy of that conflict.

The second law teaches us that war, meant as both preparation and development of a conflict, has, with the exception of rare periods, always followed the path of the material evolution which marks the history of mankind. Therefore, as our century is characterized by the unrelenting, dizzy advancement of technology and, under its spur, by the continuous increase of everything useful to man and society, so the war phenomenon trans-

Soviet 240 mm. "BM-24" multiple rocket launcher.



fers to its ambit, uses for its own purposes this tendency to quantitative and qualitative increase and becomes, on its own, a factor promoting scientific progress.

The law of acceleration proves that every country, in its anxiety to prevail over its possible adversary, has always tried to intensify the process of amplification, not only by trying to influence the scientific progress – as I have noted before – but, in certain cases, by reaching the point of determining it, and so placing itself in advance of its times. Clearly today one must distinguish between intellectual acceleration – open to all countries, large and small, rich and poor, equipped with shrewd, dynamic military staffs, ready to perceive the innovative instances of their times – and material acceleration, which, given the enormous cost of modern armaments, is almost exclusively possible for economically strong nations, willing to allocate large sums to the research and production of new means.

Things being so, we must anticipate: military operations emphasizing the characters of mobility, firepower, exploitation of the air space also for purposes of land manoeuvres, the contribution of electronics in all its forms, the rapid wear of the equipment, an imposing logistic support, the involvement of the civilian population; characters that have marked the second world conflict.

Soviet marines get ashore from "BTR-60 PB" personnel carriers.



The nuclear component, even though not employed – and I do not think it will be (1) – will make its weight felt in this scenario, for it will force the units to deploy on spaces vaster than in the past, in order to diminish their vulnerability, not excluding their subsequent concentration to achieve success by force, emphasizing therefore the need for mobility, command and control. Moreover it becomes necessary to give the equipment special characteristics to protect them from radioactivity, and to have special devices to reveal the presence of residual radiations and decontaminate personnel and materials.

I cannot conclude the survey of this parameter without mentioning two hypotheses, which have been advanced lately, for the defence of our territory from a possible attack.

The first, known as "people's war", was confuted by me in an article – appeared in 1980 (2) in the Italian edition of this Review – which I believe is still appropriate, and to which I refer the readers who wish to examine the question more closely. Here I shall limit myself to reminding that the armed resistance aimed at overthrow-

ing a despotic regime that lacks the people's consent, or at driving out a foreign army which has established itself "*manu militari*" over the entire territory of a given nation – or part of it – is a form of war as old as mankind, but, with particular exceptions, it was never a first-step course if waged against forces coming from the outside, for the gap between a regular army and the guerilla units – even if prepared in peacetime – would be unbridgeable, and for this very reason the national territory, far from being defended, would be rapidly occupied and turned into a battlefield.

The second hypothesis, warmly supported in some parliamentary circles and called "territorial defence", presupposes – in short – a radical transformation of the traditional organization of the Army, dividing it into two parts: one, more substantial, made of sub-conventional units, with light armament and conscripts locally recruited for a short term of service, and a smaller, highly sophisticated part, relying on armoured and mechanized units, field missiles and antiaircraft units, manned by volunteers serving for longer terms. The first part should cling to those mountainous and hilly areas where the enemy's tanks and mechanized formations find obstacles to their advance, while the professional units, kept in reserve at first, should support the light ones with dynamic reactions, developed over considerable depths.

I shall carefully refrain from summarily dismissing such a hypothesis, although it would be possible. All ideas, if stated in good faith, deserve respect, but it is reasonable to assume that the light units would be rapidly overcome by an aggressor determined to reach its objectives and to put in the attack all the necessary weight; all the more that the area of mountainous and hilly obstacles is of moderate depth. Once the more advanced deployment is broken, in the Veneto-Friulian plain, ample spaces for manoeuvre are open to the aggressor; here he can apply his superiority against the highly sophisticated units, which, without supporting points, would have very scarce possibilities to survive.

As regards the **geographic environment**, it will be sufficient to recall that the mountain area of our territory – as is the case for the lagoon area, although to a lesser extent – requires the presence of special troops equipped with suitable materials. It must be pointed out that the presence of univalent – or only partially interchangeable pawns – does not help the flexibility, and consequently the manoeuvrability, of a battle corps; all the more so, when this, as is our case, is of modest dimensions and therefore unable to face, with the prior deployment of adequate forces, the manifold threats to which it is exposed. It ensues

(1) See my study "Euromissiles, Neutron Bomb, NATO Strategy, and the Situation of the Italian Army" published in no. 2 (March-April 1982) of the Italian edition of this Review.

(2) "Forward Defence": Rivista Militare, no. 2 (September-October 1980), page 20.

that one must not exaggerate the tendency to emphasize the structural differentiations and the diversification of materials, not even in view of interventions in cases of public disasters; these interventions, although rightful and provided for by the "Norms of Principle on Military Discipline", are not the main task of the Armed Forces.

Let us examine the **scientific progress**. This is typical of our times, and has heavy reflections on the materials because, independently of the new necessities that progressively arise (for example, in the sectors of command and control, saturation weapons, combat helicopters – especially with antitank functions – mountain cross-country vehicles, automated management of materials) every country, in the intent of gaining an advantage over a possible enemy (according to the law of acceleration) or at least in the intent of keeping the same pace, is impelled to adopt a weapon system with more advanced performances – more sophisticated, as we say – and therefore more expensive, to replace a system which is obsolete, i.e. technically old.

And this is particularly serious because the operational life of a weapon system is not longer than 20-25 years, and can reach 30 years only if wonders are worked with its maintenance and overhauling, and some modernizing is done.

With reference to the greater costs of the means of new conception of a given category, let us just consider that a first generation tank, meaning as such the first planned and built after the last war – for us the Leopard 1 of German origin and coproduced in Italy – costs today 1 billion 300 million lire, updated price, but a 2nd generation tank, the Leopard 2, already in service with the Bundeswehr and which will soon equip the Dutch and Swiss armies, reaches almost 3 billion lire, and studies are already under way for its successor.

The Soviet Union itself, within 40 years, has gone from the T.34 – produced in thousands of units during World War II – to the T.44, T.54, T.55, T.62, an excellent tank from all points of view, with a 115 mm gun, to the T.72, with a 125 mm gun, and to the last born, the T.80.

The growing cost of modern materials, and particularly of their planning and development, hampers the economically weaker countries, which cannot allocate large sums to scientific research and which, having military instruments of limited dimensions, cannot distribute over a large mass-production the planning costs, the construction and testing of prototypes, and the setting up of a production line of a given system.

In order not to prevent the Army from having access to means with advanced characteristics, despite the technological lag of the national industries, and to avoid or limit importation from abroad, in the post-war period we resorted to international cooperation, in two distinct forms. The first, called co-production, means producing

at home – under licence and with previous agreement with the government of the country which has planned and produced it – the whole weapon system, or part of it, and proceeding to its final assembly. For instance, it is under this formula that in Italy we have made the tracked vehicle M.113 of American origin, for the transport of mechanized infantry, the M.60 tanks, also of American origin, and the Leopard 1, of German origin. Nevertheless it must be pointed out that some countries, owners of the design of the weapons requested for reproduction, grant the licence only



"Leopard 1" medium combat tank, seen during an exercise.

for the needs of the country that requests it, barring, therefore, all prospects of export and, as a consequence, the possibility to reduce costs through a more intensive use of the assembly-lines.

The second form, more advantageous than the first because it places all countries on an equal standing and opens the foreign market to all of them, consists in a bilateral or multilateral agreement for the planning, construction of prototypes and mass production of a weapon system of mutual interest. It is the path we have followed for the 155 mm. towed howitzer called FH-70, and which we are following for its tracked version called SP-70 and for the combat aircraft MRCA. Other important materials could ensue, as we shall see later on.

In this way we can hope to narrow the gap that separates us from the more developed countries and to reach a greater or even complete industrial autonomy. As I pointed out before, the fact remains that only the certainty – which nobody can have – of conquering a slice of the foreign market, where competition is keen, can make economically profitable the single-handed study and realization of a given advanced system.

Planning ahead, for the technological gap is far from bridged, the Army General Staff is moving along this road, choosing for the 2nd

generation tank – which is needed in order to at least partially modernize our tank line – the national solution, while it was common belief that the decision would have been to co-produce the Leopard 2, a very high performance tank, considered by the experts the best in the world, already employed by the Bundeswehr, in production for the Netherlands and co-produced by Switzerland, which – having discontinued in 1980 a well-advanced national programme – after a long and accurate technical and practical comparison, preferred it to the American M. 1 Abrams.

It is a bold choice, reaching into the future; the industrial partnership created by FIAT and OTO-MELARA for the construction of the new tank must respond with an intelligent and effective effort. It must be an intelligent undertaking because the national solution must not be understood as an autarchic one, considering that the development of the Leopard 2 has taken 12 years of studies and tests, with the construction of no less than 21 prototypes and an expense of over 700 billion lire. If we were to rely on our strength alone, the Italian tank could hardly see the light, in its prototype form, before 1989-1990. It would have an enormous cost and would not be competitive on the international market, not only because it would be too expensive, but also, and mainly, because the foreign tanks of the 3rd generation would be looming on the horizon. Far from withdrawing into our shells, we shall have to accept the cooperation of highly qualified foreign companies that have already offered it.

The U.S. itself, whose technical capability and financial wealth nobody can doubt, has discontinued the development of a 120 mm. gun for the 2nd generation of its M. 1 Abrams tank and will build under licence the Rhein-metal gun installed on the Leopard 2.

Spain, on its part, having decided – like us – to make a modern tank at home and to narrow its technological gap, has without hesitation sought the cooperation of Germany, motherhouse of the Leopard line, and an agreement for the construction of a 40-45 ton tank, comparable to the Leopard 2 and, under certain aspects, more advanced, is about to be signed.

We have centred our speech on the battle tank as an example, but it can be extended to all the necessary weapon systems and high-technology systems, keeping well in mind the following assumptions:

- Scientific research and technological innovation are, as Minister Granelli pointed out in a recent visit to the U.S., indispensable factors of international competition;
- Research must be programmed, financed and controlled. While it is true that in 1983 about 7,000 billion lire, about 1.6% of our GNP, were assigned for this purpose, it is also true that this sum has been divided among 150 budget items: too many to achieve good concrete results;



"Leopard 2" medium combat tank. Equipped with antinuclear, 120 mm. gun and 7.62 mm. machine guns.

- Programming should be directed towards carefully selected objectives according to their effectiveness, and this selection should go together with the coalition of Institutes and Industries interested in research in a determinate sector. From this point of view, credit must be given to the Army General Staff for having first perceived the usefulness of promoting the establishment of Consortiums entrusted with the development of a given weapon system or any other programme of considerable complexity. The abovementioned Consortium, created for the production of the 2nd generation tank, is a good example. The transition from the present system of many, more or less nearsighted, interlocutors, concerned mainly with



biological and chemical protection systems, it is armed with a

their own interests, to a two-partner dialogue – Defence and Consortium – though not exempt from snares – and we shall see later how these can be avoided – reduces sensibly the times of planning and development and is therefore a source of considerable savings;

- Research must not be financed almost exclusively by the State, as is now the case, with the result of unburdening the public or private Companies of their responsibilities. They must not evade their share of risk, a risk that can be reduced to moderate dimensions through a cautious estimate of the future needs, concerted with the qualified military authorities.

We come at last to the **financial resources**, the parameter that since many, too many, years is a doleful note.

From what we have just expounded it is clear that the quantity and quality of armaments of an Army, as well as a Navy's and an Air Force's, are connected in mere theoretical form to the similar elements of the forces against which they are expected to fight, to the geographic characteristics of the possible theatres and to the procedures that one has decided to follow. The military leaders are obviously bound to ask the best as regards quality and to reckon, for quantity, something more, as a safeguard against contingencies that often occur in war, and always with a negative sign. Such theoretical concatenation is fully effective also in the practice of the totalitarian states, rightist or leftist – where the power aims prevail over the social ones – which do not have to answer to public opinion about the employment of the national income and can rig as they please the figures of the budget.

The situation is different in the democratic countries which pursue, first of all, the aims of economic development of the nation and social promotion of their citizens, and are obliged to show with extreme transparency where the public money goes. If one adds to that the inclination, rather widespread also in official circles, to regard military expenses as unproductive, and the consequent scarce liking for them, it becomes easy to understand not only the governments' habit of always keeping below the requests made by the military authorities, but also the cuts that in times of crisis are made to the Defence budgets, giving rise to a frequent, often harsh but always fair, conflictuality between the political and military authorities. The latter, though conscious of the complexities and contradictions of the problems that the former must face, rightly demand the observance of the levels of force freely agreed upon as part of international agreements, and underline that by going below the safety limits one nullifies the operational plans and compromises the credibility of our defensive will. Moreover, in an emergency, the flowing of allied reinforcements would become difficult for lack of a plausible moral motivation to help someone unwilling to help himself.

This is how the financial resources, from 1974 on, just to limit ourselves to the nearest period, have undergone a progressive reduction, clearly not in their absolute value but in the percentage of the State's expenditures, which from the 9.86% of that year have gone down to 4.40% in 1983, an amount that sets us at one of the last places of the Alliance, behind countries less well-off than ours, and less exposed to a possible aggression (see chart).

This year, things have not changed very much despite an increase of the appropriations for defence by 3% in real terms, of the budget of 1981, in line with the agreements made at the conference of the Heads of State and Govern-

ment of the Atlantic Alliance, which took place in Washington in the Summer of 1978. The agreements were confirmed by the Supreme Defence Council at the meeting of January 28, 1981 (and it seems an irony that this measure should have been taken by a socialist-led government). We have at our disposal 13,798 billion lire, of which 5,822 billion are taken up by tied-up expenditures (personnel, non-institutional, expenses deriving from international agreements, etc.). Of the remaining 7,976 billion, only 3,194 billion can be assigned to the updating and renewal of the materials of the three Armed Forces, since the remaining 4,782 are earmarked for the operating expenses.

In a situation of chronic insufficiency of resources, which did not only prevent the replacement, but even the updating of the existing materials, in 1975 it was absolutely necessary – as is well known – to perform a radical reorganization, which was practically a reduction of the Armed Forces in all of their components (operational units, logistic support, territorial and training organizations). As regards the Army, a considerable number of battalions of the various Branches, including several glorious traditional Regimental Headquarters, were disbanded.

After the reorganization, the new establishment, based on the Brigade – which, better than the Division, was deemed capable, in the nuclear era, to assume the rôle of elementary Major Unit of a Battle Corps – was based on 24 Brigades of different types, 5 of which deployed to the south of the Apennines. The threat against the north-eastern border, the importance of which we have seen before, should therefore be faced by 19 Brigades and their support, a bulk barely sufficient to prevent an early break in our defensive apparatus, which would be followed by a fast and deep penetration.

The cuts were not made without trauma, and the Army Chief of Staff of the time, who had the courage to take this initiative, risked unpopularity. But these cuts should have had as compensation an extraordinary allocation of funds for the purpose of modernizing the equipment and to improve considerably the quality of the Units kept in service. In fact, our Parliament, in 1977, with a sensitiveness that deserves praise, passed, as it had already done for the Navy and, immediately after, for the Air force, a promotional law which assigned to the Army the amount of 1,115 billion lire, to be spent in yearly installments. Unfortunately, what was lost for the delay of the years of

EVOLUTION OF DEFENCE EXPENDITURES (1974 - 1984)

YEARS	DEFENCE BUDGET	STATE EXPENSES	DEF./STATE %	GNP	DEF./GNP %	DEFENCE INCREASE % (MONETARY)	GNP IMPLIED DEFLATORY
	2.373,4 (1)						
1974	(2.005,2)	20.338,26	9,86	110.719	1,85	—	—
1975	2.451,3	30.373,9	8,07	125.378	1,96	22,5	17,5
1976	2.956,7	38.071,7	7,77	156.657	1,89	20,62	18,—
1977	3.530,6	47.083,5	7,49	190.083	1,86	19,41	19,—
1978	4.313,8	64.444,—	6,69	222.254	1,94	22,18	13,8
1979	5.119,1	119.376,— (2)	4,28	269.657	1,90	18,67	15,9
1980	5.780,0	150.249,—	3,85	337.402	1,71	12,91	20,8
1981	7.510,7	177.731,—	4,23	398.125	1,89	29,94 (4)	17,6
1982	9.918,—	235.366,—	4,21	472.970 (3)	2,10 (3)	32,05 (4)	16,1
1983	12.047	273.227	4,40	558.350 (3)	2,09 (3)	17,45	15,5
1984	13.798	340.413	4,054	not available	—	18,05	not available

(1) Up to 1974 the budget includes also pension outlays, which as from 1975 will be assumed directly by the Treasury. For the homogeneity of the historical sequence, the amount within brackets is taken into account.

(2) According to Law no. 468 of August 5, 1978 and starting from 1979, the estimate State budget has been "expanded" to include expenses regarding decentralized authorities and hospital institutions.

(3) Estimated data.

(4) In assessing the considerable monetary increases of 1981 and 1982, one must not overlook the insignificant increase of the budget of 1980, the darkest year of the defence budgets from 1975 to this day. Therefore the average increase in the last 3 years is approximately 25%, very little above the average of the preceding years. These data are contained in Decree no. 3630 "Estimate State budget for FY 1983".

scarce political attention to the military could not be compensated by the sums assigned.

In addition, nobody was shrewd enough to connect the financing with the depreciation of the lira, with the result of having it eroded by inflation and, for the materials coming from abroad, by the continuous worsening of the rate of exchange of the lira vis-à-vis the other currencies. Therefore, already in 1981, we were again in the difficult situation of 1975, which was made worse by the increase of the threat – both in its gravity and in the variety of its sources – and by the cuts made in the Defence budget in 1982 and 1983. The Minister of Defence of the time, to whom the situation had been duly explained, deeming appropriate to inform the Parliament about the needs arising from the threat looming in the Mediterranean area, ordered the elaboration of a document in order to possibly shape a new model of defence. In this document, submitted to the Minister in the Spring of 1983, it is stated that in comparison to 1975 there had been no decrease in the threat to the north-eastern border, while additional necessities were appearing in the central-southern area.

It seems neither possible nor opportune that the opposition to these threats, of prevalent air and naval character, should go to the detriment of our defence capability in the Veneto-Friulian area, to which, moreover, Italy is bound by its pledge to NATO. From this derives the substantial confirmation of the model of defence based on the reorganization of 1975, which is to be quantitatively and qualitatively completed in order to face the increased vulnerability of the South.

From the analysis synthetically described here, a technical-operational programme has been worked out by the Defence General Staff, together with the General Staffs of the three Services. The programme covers the years from 1983 to 1992 and its first phase should be limited to the objectives established in 1975, which are to be considered as minimum goals. The subsequent stages, appropriately phased according to the available financial resources, should gradually allow us to adjust to the new situation.

As for the Army, to list its main shortages, which were also pointed out by NATO in its evaluation of the 1983-1988 force goals, we shall avail ourselves of the statements of the Army Chief of Staff at the "National Conference on the Defence Industry", which was held in Rome this year in July.

In the **manoeuvre and mobility sector**, which is made up of armoured and mechanized troops, the main problem are the tanks, characterized by heterogeneity, declining operativeness of a good portion of them (namely the M. 47s) and by the technological aging of the firing-systems which, besides being unable to permit firing while moving, are absolutely insufficient in the acquisition of the target and first hit probability.

The modern 155 mm. "FH. 70" howitzer, in service with the Italian Artillery.



The Army General Staff, confronted by an objectively unbearable situation, has decided to acquire a certain number of 2nd generation tanks and home-built armoured cars of domestic production, in order to replace, at least partially, the M. 47. About the convenience, under particular conditions, of the national choice, I have already expressed my opinion and therefore I shall not repeat it, while in my capacity as an expert in employment, which I think I am due to my professional background, I wish to make some reservations about the usefulness of the armoured cars.

At the same time, and in order to regain the time lost in the past useless diatribes, the qualified organs of the Army General Staff and the General Directorate of Motorization are working briskly at organizing the complete overhaul of the 1st generation tanks (M. 60 and Leopard 1). This overhaul will go together with a substantial updating, regarding particularly firing systems and protection.

In the perspective of the '90s, our Army will have at its disposal two groups of tanks, one modern or modernized and the other made up by tanks of gradually declining operativeness, which should be replaced in the mid '90s by the 3rd generation tanks. For these, a feasibility study shall have to be started as soon as possible, also in



OTO-MELARA 25 mm. four-barrel anti-aircraft field system, on a M-113 hull.

view of creating the conditions for a joint cooperation – on an equal base – with the European countries most advanced in this sector.

Regarding the **supporting fire**, the aim is – in accordance with the ever growing success of the "Airland Battle 2000" doctrine inside NATO – to acquire land systems capable of neutralizing the second echelon enemy units. These systems, owing to their cost and high technology, should be obtained through on early participation in multinational projects.

The rocket launcher MLRS and the LANCE are the most outstanding of these systems. The MLRS studies have reached the 3rd phase, which aims at developing rockets equipped with submunitions with terminal self-guidance; many obstacles will have to be overcome, notably the financial costs which the Army is absolutely unable to tackle with its scarce resources only. As for the LANCE, of which we already have a battalion managed, for the logistic support, by NAMSA, there is a multinational project for the substantial improvement of the system in its LANCE 2 version, with a longer range, from the present 80 kms. to 200 kms.

It is almost unnecessary to add that we shall have to carry on with the SP-70 programme, which will equip the armoured artillery with a self-propelled gun having the same characteristics of the recently acquired FH-70 towed howitzer.

As regards the **antitank fire**, while we intend to take part, under equal conditions, in the multinational development and production of a 3rd generation missile, there are national initiatives concerning the medium range and, potentially, the technical capability to participate in a European programme, with clear advantages as regards

costs, which are very high, and the possibility to obtain foreign orders.

As for the **antiaircraft defence**, the situation is rather fluid. In the long run – but not very long – the HAWK system, which has almost reached the end of its operational life, shall have to be replaced. To cover the units likely to be the most employed, the acquisition of 24 Skyguard-Aspide light missile systems has been decided; they will meet the needs of 12 Brigades. The other Brigades and the units of the territorial defence will have to be equipped with the same system, unless we participate in the multinational studies for a higher performance 3rd generation system. There remain the problems of low altitude – about which we are waiting for the results, not very encouraging up to now, of the study for a four-barrel 25 mm gun on a M.113 hull, assigned to a national firm – and the problems of self defence, to be solved preferably with portable missile systems.

For the modernization of the **light aviation** we anticipate, in the long term, the replacement of the AB-206s with a family of helicopters derived from the A-129 for reconnaissance and fire observation and control, and the acquisition of a tactical transport helicopter for the replacement of the AB-204/205/212.

Command and control is mentioned last for exposition reasons, but it influences all others. Without disparaging the moral value of the physical presence in the hot places and moments of the battle, it is electronics – a science whose continuous development is astonishing – that the higher Commanders turn to, in order to learn and see what happens on the battlefield, and to give orders, on the timeliness of which victory or defeat can depend.

CATRIN, a national project of remarkable importance and high-technological contents, should give an adequate answer to this fundamental need.

The shortages listed above, and other less important ones which nevertheless must not be neglected, from which our Army suffers, will be removed only if the next budgets – taking into account the inflation's actual rate, confirming the annual increase of 3% and not making extemporary cuts – will leave the necessary margins to the item "modernization and renewal of materials". If the contrary happens, the only choice would be to reassess the tasks assigned to the Armed Forces and probably also the political strategy of our country. These are decisions that go beyond the military authority and are the responsibility of Parliament and Government.

While it is essential to draw the legislative and executive powers' attention on our problems, at the same time it is our duty to spend wisely the funds assigned to us. In this regard we can ask ourselves whether it is wise to pay 100 in Italy what the foreign market offers for 50. In the abstract, the answer is negative, but in practice one can concede that in a situation of economic

hardship, as the present one is, one should try to favour the national industry: the Defence Minister acted well when he issued recommendations to this end to the bodies charged with the acquisition of goods and services.

Nevertheless, if we want to avoid turning into arbitrariness or mere beneficence what is to be understood as a contribution made by defence to the recovery of the Italian production system, it seems necessary to:

- continue inviting the tenders of foreign firms, for their bids, besides being a reference point, have a price-controlling function;
- quantify in percentage (Minister Lattanzio did so some years ago for a certain acquisition) what allowance can be given to the national firms, for equipment of the same quality;
- ensure, with appropriate surveys, that the game is worth the candle, that is, that one does not pay more for goods of inferior quality;
- evaluate with maximum accuracy and adequate technologies the "congruity" of the price requested by the suppliers. This is all the more necessary for the supplies by private contract, in which there is no competition; this will happen with the joining in consortia of the possible interlocutors of Defence for complex weapon systems. The evaluation of such "congruity", in which various elements, difficult to assess, are intertwined (among them the firm's profit is a particularly thorny one) has always been an arduous problem for the Defence Administration – and, I believe, also for other Administrations – which has been solved in empirical, approximative and uneven ways. It would be useful to create a very skilled group of cost analysts, under the Secretary General of Defence or at the Central Office for Military Equipment, with the possibility to be employed also by the Director Generals;
- shorten, as the Secretary General of Defence underlined in his speech at the abovementioned National Conference on the Defence Industry, and as I have pointed out in another study (3), the very long time now lapsing before the contracts are approved and the firms receive their dues. The supplying firms are not banking institutions and must therefore ask banks for the funds they need and it is logical that they make us pay the interests, which today are very high.

I should like to add, addressing myself to the good-or-bad-faith pacifist circles, which condemn the military industry attributing to it the responsibility for the situation of insecurity in which mankind lives and also for the local conflicts that cover the world with blood – which instead, have various and less simplistic causes – that the Italian defence industry, even if it is at the fourth place (but with a modest 4.3%) in the list of the arms-exporting countries, which is headed by the Soviet Union with 36.5% (4), is an essential component of the national defence, whose aim is to guarantee the independence and territorial integ-

rity of our country and to guard the Institutions it has chosen for itself.

But there is more. Our armament industry is trying hard, also thanks to the technological contributions it receives from the international cooperation, to make up for the delay occurred in the first half of the post-war period. It will certainly succeed in the medium term unless the beneficial external contributions are blocked with anachronistic protectionisms and its impetus is repressed by reducing orders. Today, this impetus places this industry among the small number of metal-mechanical activities that withstand the crisis which has hit our country. It has been estimated that for every 100 billion lire withheld from the investments of Defence there is approximately a decrease of 2 million working hours and about 2000 workers are put on the dole. The economic and social consequences are evident:

- decrease of the national productivity with a negative influence on the balance of payments, on our competitiveness in the international market and on the technological development of our industries;
- increase of unemployment;
- the expense by the State of approximately 20-25 billion lire a year for the personnel on the dole.

To conclude, a last consideration. The inadequacy of the financial resources has a moral aspect that must not be undervalued and involves the responsibilities of the ruling class.

Rightly, Fascism is blamed, among other things, for having sent our youth to die on the African sands and in the Russian steppe, in a little-felt war and with scarce and in part inadequate means. History could repeat itself, because the days in which Marshal Suvorov could say: "the bullet is crazy, the bayonet is shrewd" are definitely gone. Though the statistics of the losses are never peremptory, it has been reckoned that in World War I as well as in World War II the percentage of the wounded by sidearms did not reach 1%.

And also passed are the more recent times when it was possible that a high number of men at arms (the 8 million bayonets of unhappy memory) was synonymous with power.

It is true that in war the maker of success is still man, with his preparation and the virtues he can express in time of need but, in order not to betray him, it is necessary to give man the best equipment offered by technology or, at least, all he requires to withstand a confrontation with his probable enemy.

Lt. Gen. (ret.) Luigi Salatiello

(3) See "L'Amministrazione della Difesa", Informazioni della Difesa, no. 3-4/1983.

(4) Data contained in the "Report on Armaments, 1982" by SIPRI (Stockholm International Peace Research Institute) published in Italy by the Disarmament Archives, De Donato editions.



THE MERLIN MORTAR BOMB

This newly announced infantry launched anti-armour weapon has been devised and developed by British Aerospace as a company funded venture. It is launched by a conventional 81 mm mortar giving low cost per round and low cost of operation. Merlin is a terminally-guided armour piercing mortar bomb offering a highly effective fire and forget capability to infantry confronted by tanks and APCs. The active millimetric guidance sensor is highly resistant to ECM and gives a full all-weather fire-and-forget capability.



sea mines
land mines
scattering systems
coastal defence systems

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OERLIKON 25 mm AUTOMATIC CANNON, TYPE KBB

The Oerlikon 25 mm KBB cannon is a gas-operated weapon featuring a two part positively locked bolt. It has a selectable dual feed capability, the ammunition feed being operated by the sliding bolt.

Two removable pins attach the cannon to the cradle upon which it recoils. The ammunition guides are fixed to the cradle. The small average recoil force of only 8000 N together with its low total mass of only 146 kg makes it suitable for a wide variety of installations. The high rate of fire and the high muzzle velocity of the projectiles provide the cannon with its excellent characteristics as an anti-aircraft weapon and at the same time guarantee outstanding effectiveness against ground targets.

The 25 mm KBB cannons are very ruggedly constructed to ensure operational reliability under adverse environmental conditions (sand, dust, heat, rain, etc.). Routine maintenance calls for no special skills from the operator and requires no special tools.

For naval applications the KBB cannon is mounted in a

multibarreled configuration. The "Sea Zenith" quadruple gun mount is the weapon of the SEAGUARD close-in weapon system, designed to destroy anti-ship missiles, bombs and aircraft. The rapid firing KBB cannon and its AMDS anti-missile ammunition have been optimized to give a one hit = one kill probability against missiles. A unique feature of the mount is its Zenith engagement capability.

TECHNICAL CANNON DATA

Total mass (including ammunition feed mechanism, without belt chutes): 146 kg.
Rate of fire: 800 rounds/min.
Muzzle velocity v_0 :
• 1160 m/s (standard ammunition);
• 1355 m/s (AMDS ammunition).
Average recoil force: 8000 N.
Recoil: max. 34 mm.
Overhall length: 3190 mm.
Barrel length: 2300 mm (92 calibre).
No. of rifling grooves: 18.
Rigling angle: progressive 7° 30'.

TECHNICAL SEA ZENITH DATA

Mass of gun (without ammunition): approx. 4500 kg.
Ammunition (1300 rounds): approx. 5500 kg.
Rate of fire: 3200 rounds/min.
Muzzle velocity: 1355 m/s.
Types of ammunition: TP-T, HEI, APDS-T, AMDS, APP-T.

NA 30 FIRE CONTROL SYSTEM

The NA 30 Fire Control System represents the most complete and technologically updated product of the line of the new generation equipment designed by Elettronica San Giorgio - ELSAG to cope with the present and future operational requirements of modern Navies.

This System was adopted by the Italian Navy for installation in the new ASW Frigates of "Maestrale" class and in the Helicopter Carrier "Garibaldi".

The Na 30 F.C.S. is available in two configurations: Mod. A and Mod. B, the main difference between the two versions being the number of Lines-of-Sight available.

Infact the NA 30 Mod. A utilizes for target tracking two independent directors, one supporting the Selenia ORION 30 X Radar and the other equipped with optronic sensors such as an Infra Red thermal camera, a Laser range finder and a Daylight TV camera.

As an option, Daylight/Low-light level TV camera can be also installed in the Rodor Director.

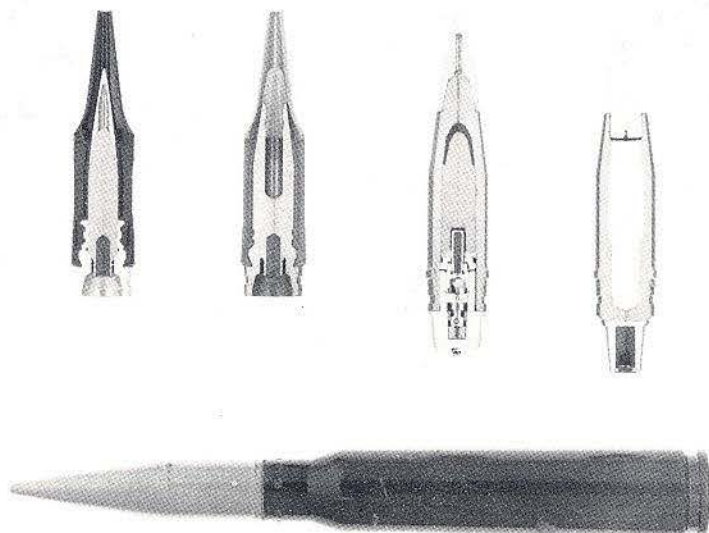
As NA 30 Mod. B is provided with a single Director where the same ORION 30 X Radar is combined with an Infra Red sensor and a Daylight TV camera.

From the weapon control point of view, the NA 30 Systems, depending on the configuration considered, can provide up to four independent gun outputs and proper ballistic calculation for up to three different calibres, besides supplying launching data to Surface-to-Air missile Systems and target data to those Surface-to-Surface missile systems requiring this input.

SYSTEM COMPOSITION

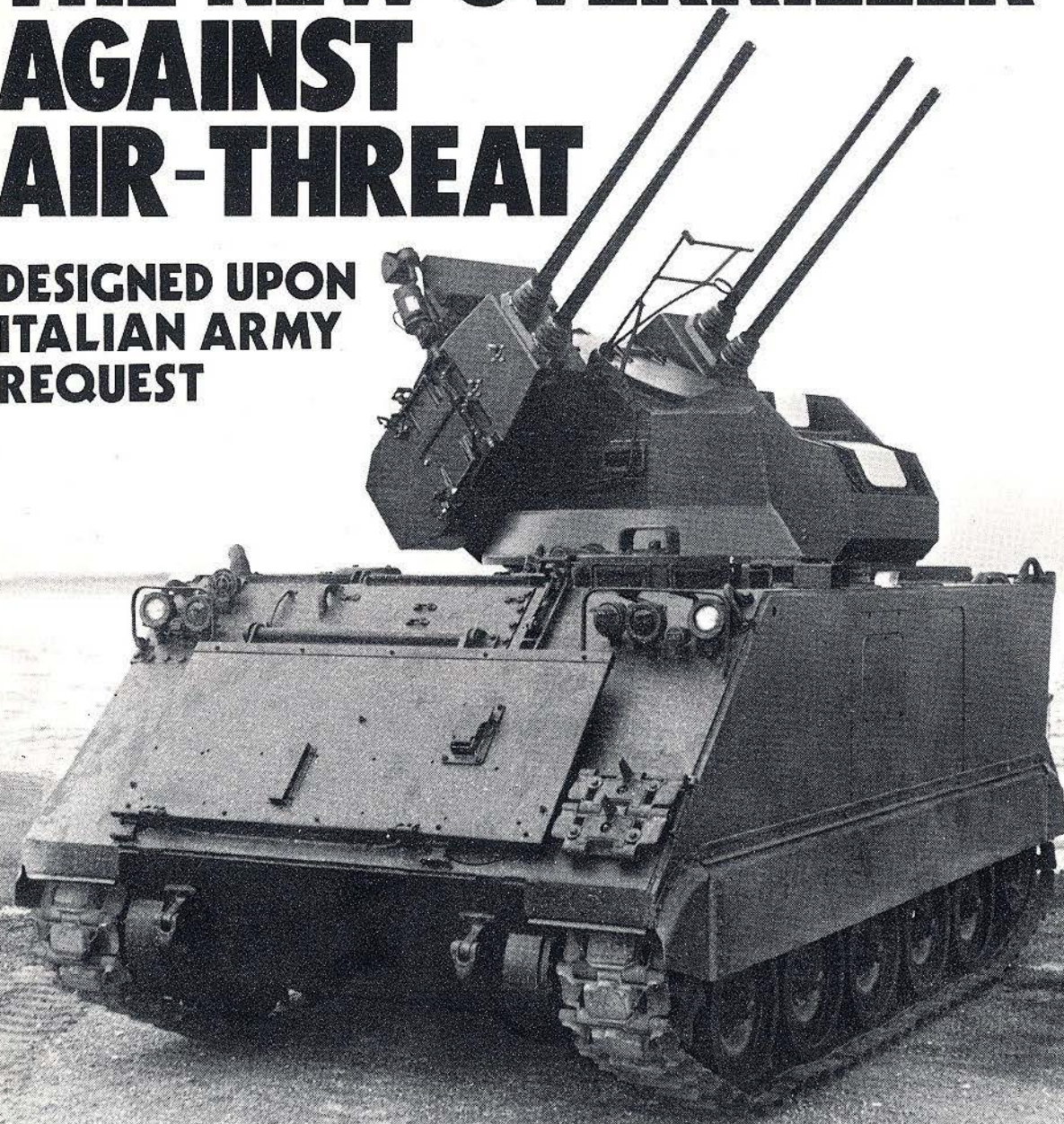
NA 30 Mod. A

The NA 30 Mod. A Fire Control System is composed of



THE NEW OVERKILLER AGAINST AIR-THREAT

DESIGNED UPON
ITALIAN ARMY
REQUEST

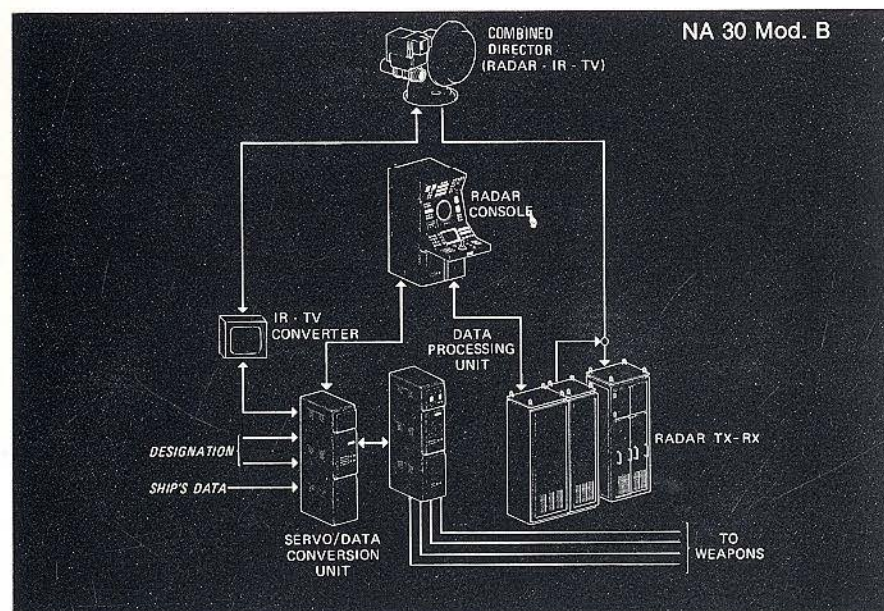
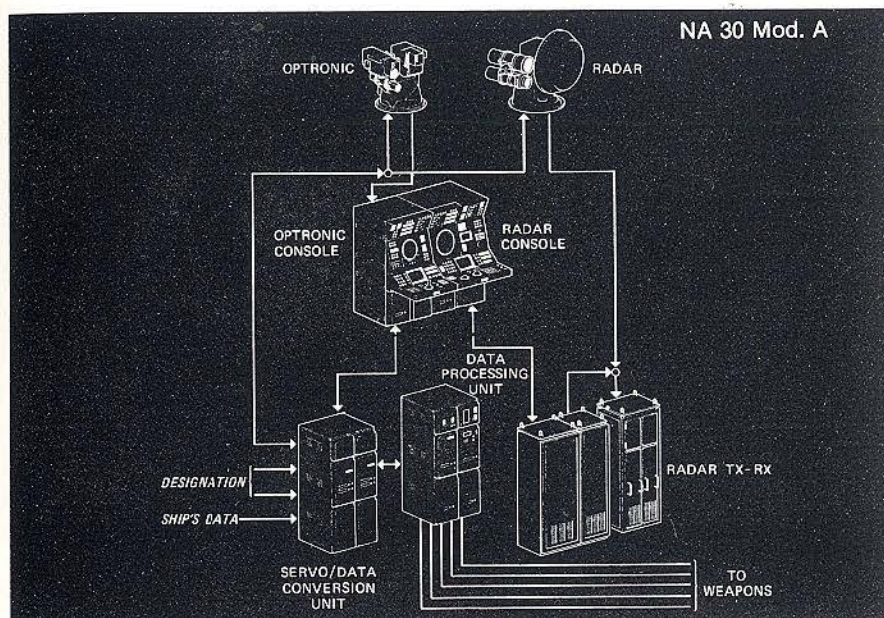


4x25mm KBA Oerlikon cannons, compact Oto Melara mount, Galileo optronic OG14 FCS.

Suitable for any A.P.C.

Rate of fire: 2400 rds/minute Traversing: 360° Elevation: -5 +87° Rounds: HEI-T, SAPHEI-T, APDS-T





the following main items of equipment:

- no 1 Set of ORION 30 X F.C. including the ORION 30 X F.C. Radar Antenna and, optionally, a Daylight/Lowlight Level TV camera.
- no 1 Servoed Pedestal supporting an I/R Thermal Camera, a Laser Range Finder and Daylight TV Camera.
- no 1 Data Processing Unit.
- no 1 Servo and Data Conversion unit.

- no 1 Set of ORION 30 X F.C. Radar Equipment (Transmitter and Receiver).
- no 1 Main Operator Console (for F.C.R. and SA. Missile Control).
- no 1 Secondary Operator Console (for Optronicon Sensor Control).

NA 30 Mod. B

The NA 30 Mod. B is composed of the following main items of equipment:

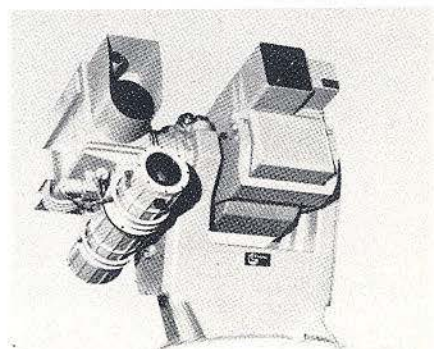
- no 1 Servoed Pedestal supporting the ORION 30 X F.C. Radar Antenna, an I/R Thermal Camera and Daylight TV Camera.
- no 1 Data Processing Unit.
- no 1 Servo and Data Conversion Unit.
- no 1 Set of ORION 30 X F.C. Radar Equipment (Transmitter and Receiver).
- no 1 Operator Console.

An additional console, for purposes of data logging control and video recording for the evaluation and analysis of the tracking actions, can be optionally supplied as complement to either version of the NA 30 System.

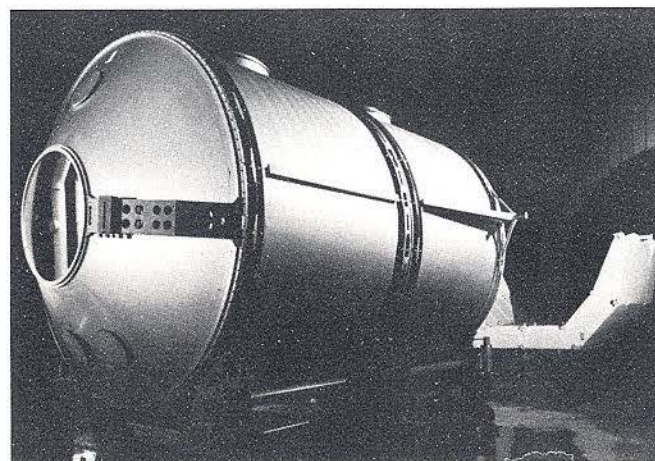
The ORION 30 X is a monopulse, coherent chain MTI tracking radar, operating in X band and belonging to the new generation of Fire Control Radar designed by Selenia.

In addition to the above characteristics the ORION 30 X has the capability to radiate C.W. energy through the same antenna, providing target illumination for Surface to Air Missile guidance such as in the case of either versions of the Selenia ALBATROS System.

The very high qualitative level of sensors employed as well as the wide range of dedicated tracking and firing modes specially tailored for the most updated threats, put the NA 30 in the vanguard of Fire Control Systems of new generation for employment in the modern naval warfare.



READY TO MEET THE NEEDS OF TOMORROW



Aeritalia, a member of the IRI-Finmeccanica Group and Italy's major aerospace manufacturer with a complete systems capability is playing a significant role in technological progress.

It is engaged in the research, design, development and production of military aircraft: Tornado, AMX, F104S, of transports G 222, and in the general aviation aircraft of the P68 series, and assemblies for airliners DC9, DC10, B727 and B747.

It is participating in the design, development and production of the advanced commercial aircraft B767 and the passenger commuter ATR42.

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MISSILE LAUNCHER ALBATROS WEAPON SYSTEM

The Launcher is a part of the Albatros point defence system with Sparrow III (Sea Sparrow) and Aspide missiles, intended for installation on warships ranging in size from corvettes upwards.

The launcher consists of a training mount supporting two 4-cell groups capable of moving in elevation and depression.

Each cell houses a Sparrow or Aspide missile, carried by a launching rail. The cells are airtight and provided with autonomous climatization and automatic fire extinguishing system; two frangible covers which break during firing close the front and the rear of the cells.

A Servo Unit Cabinet with a control panel for launcher servicing completes the installation.

LAUNCHER FEATURES

The launcher design is based on the following features:

- limited weight without impairing the launcher sturdiness and performances;
- reduced height (at zero degree elevation) which greatly simplifies the loading operations;
- use of light-weight, highly efficient and reliable servo-systems;
- relative low moment of inertia in train and elevation;
- installation on the same base-plate of the ship used for the 76/62 OTO Compact Gun Mount.

The launcher (with the exception of the loading and arming of the missiles which are carried out manually) operates automatically.

All the operations of the launcher and the condition of the missiles are continuously controlled by electric and electronic logic circuits.

LAUNCHER CHARACTERISTICS

The launcher consists of two cell groups movable in elevation; a training carriage supporting the two cell groups by means of trunnions; two power drives, for training and elevation; a blower system for the cell climatization together with a heating system, a deicing system, a temperature control system and a CO₂ fire extinguishing system.

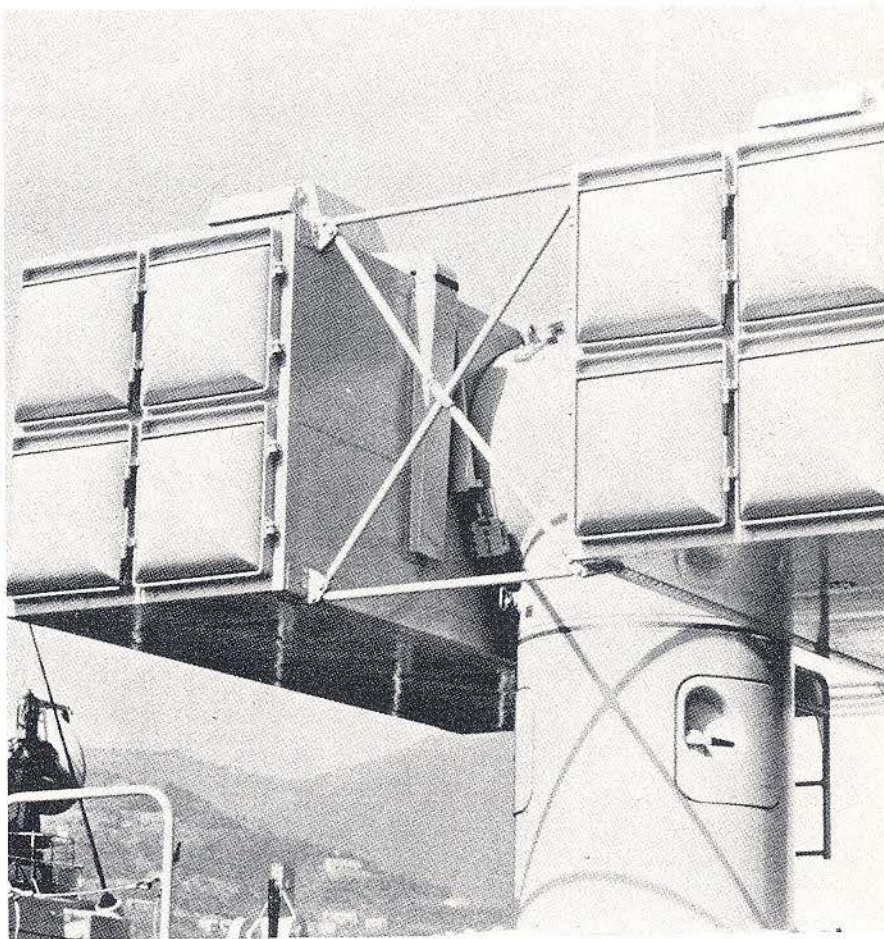
Cell Groups. The two cell groups consist of a metal prismatic shaped rectangular base structure and are connected to each other through a cylindrical body forming the trunnion axis. The cell groups move in elevation by means of two trunnion bearing mounted on the carriage which houses also the power drive controlling the elevation movement.

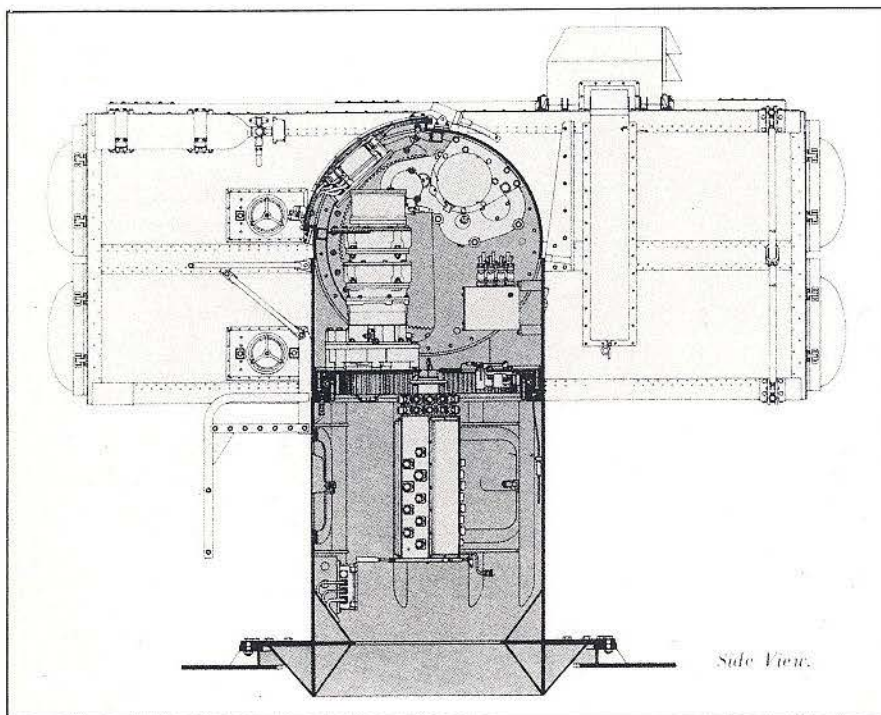
Each cell is closed at the front and rear by two covers of the frangible type. The missiles are arranged in the cells by means of a rail guide and a launching rail.

Training Carriage. The carriage is a light aluminium alloy cylindrical structure and consists of a fixed pedestal and a training carriage.

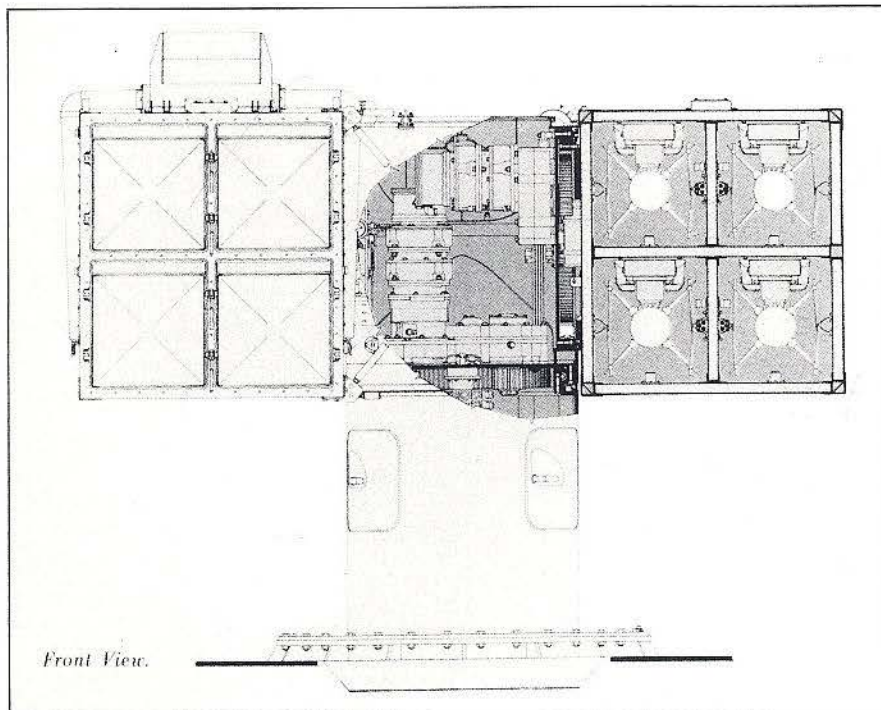
The pedestal is provided with three access doors for servicing the internal components and houses the train power drive. The carriage trains on the pedestal by means of a ball bearing, single row type, with steel wire races.

Servo Systems. The servo systems are of the electric type with controlled rectifiers. The motors have printed rotors and thereby low inertia and high specific power.





Side View.



Front View.

Blower System. The blower system dissipates the heat produced by the missiles when they are energized or the over-heat produced by hot weather conditions, maintaining the temperature inside the cells below 38°C.

The system consists of two electric blowers (one for each cell group) installed on the upper side of the cell groups and forces air in the cells through air ducts.

Temperature Control System.

The temperature control system consists of a series of thermostats arranged inside each cell and controlling the heating, the blower and the fire extinguishing systems.

The temperature control system is cut-off during the launching sequence.

Fire Extinguishing System.

Each cell is equipped with a CO₂ fire extinguishing system which automatically enters into operation when the internal temperature of a cell reaches 100°C.

SERVO UNIT CABINET

The installation is completed by a Servo Unit Cabinet which forms the interfacing unit between the launcher and the launching system. It contains all the electric and electronic components for the automatic operation of the launcher through a control system forming the power supply group, the interfacing logic group and the servo-system group.

TECHNICAL DATA

Total weight without missiles: 6500 kg.
Loaded with eight missiles: 8200 kg.

Electric circuits:

Power supply: three phase, 440V - 60Hz.
Rated power: 18 kW.
Servo System supply: three phase, 440V - 60Hz.
Rated power: 12 kW.
Peak power: 55 kVA.
Synchro network: Single phase 115V - 400Hz.
Rated power: 150 VA.

Servo System performance:

Train:

Arc: unlimited.
Max. speed: 45° sec.
Max. acceleration: 30° sec².
Max. time required for 120° slewing: 4 sec.

Elevation:

Arc: from -5° to +80°.
Max. speed: 25° sec.
Max. acceleration: 30° sec².
Max. time required for 60° slewing: 3 sec.
Working temperatures: from -10° to +65°C.



M. Howard, "The Causes of War and Other Essays", Counterpoint, London, 1983, pp. 291, £3.95 (paperback).

Michael Howard is one of the main exponents of contemporary strategic thinking. In a sense, he is to Great Britain what Raymond Aron was to France.

A scholar of Clausewitz, a distinguished historian with a complete grasp of the state of West, he has made a decisive contribution to the strategic debate of the past 20 years. He has always stood out for his down-to-earth approach and sound common sense (that "conventional military wisdom" which strategic analysts often forget), and his firm rejection of any form of dogmatism and pseudo-scientific rational reductionism that has often characterized Western military/strategic thought. He is an advocate of subjectivity and contingency, in the best tradition of strategy scholarship. He knows the value of his own discipline – history – but is careful not to abuse it by arbitrarily applying the events of the past to the contemporary world.

This book is a collection of essays and papers written by the author during the past 10 years, mainly published by the London-based International Institute for Strategic Studies and the Foreign Affairs magazine. The most interesting are "The Cause of War", "War and the Nation State", "The Strategic Dimension of International Relations", "Social Change and the Defence of the West", "The Forgotten Dimensions of Strategy", "On Combating a Nuclear War", "The Use and Abuse of Military History", and "Confidence-building and Detente: the Defence of the West in the Eighties".

These titles clearly show the variety of the topics discussed and their importance to an understanding of the role, functions and nature of war in our day.

There is no doubt that these are some of the finest contributions to strategic studies that have ever been published in the West, and are essential reading for anyone wishing to appraise the impact of nuclear weapons on strategy, on the system of international relations, and on Western security. In a period of such far-reaching change as the present, this is essential. Before any preparations to defend the West, or any attempt to keep the peace and maintain security can be made, we have to understand the nature of modern warfare and its role in the context of international relations and against the background of Western civilization.

Carlo Jean

S. Chubin, R. Litwak, A. Pascor: "Security in the Gulf", Gower, London, 1982, pp. 180, £7.30.

This book contains the main papers delivered at a conference organized by the Institute for Strategic Studies, and illustrates the changes in the parameters relating to security in the Gulf. This area is of vital relevance to the West, not only because it contains 50% of the world's oil resources, but also because it blocks Soviet access to the Indian Ocean. The Gulf area is highly unstable and is an essential component of the "crisis crescent" that runs from the Horn of Africa to the Middle East and Afghanistan.

The reasons for its instability are primarily endogenous, and knowledge of the political, social and economic developments is therefore essential. To protect Western interests, strategic/military factors are not so important as other measures designed to

consolidate the socio-political-economic situation of the countries in the area, to prevent them from being destabilized from which the Soviet Union would benefit enormously.

This book only deals with Saudi Arabia and the minor countries in the Gulf. Other fundamental issues, such as the Iraq-Iran war, relations between Israel and the Arab States and Afghanistan are not dealt with explicitly, except insofar as they have repercussions on the countries under consideration.

In the past 20 years, the Gulf States have undergone far-reaching changes. The West – particularly the United States, which took over from Britain as the main external power in the area – has underestimated the implications of these internal changes. Quite simply, the West felt that it could safely ignore them, because the economies of these countries depended on oil exports, and reckoned that their only possible customers were the Western countries which would be able to implement an appropriate procurement strategy giving them a permanent capacity to influence the ruling elites of the Arab countries.

In reality, however, their traditional socio-political systems have not proven capable of checking such rapid and far-reaching changes, brought about by their enormous oil revenues. Domestic tensions have emerged, partly fuelled by Islamic fundamentalism, which have eroded the regional security system which the United States built around Iran. Increased Soviet political activity in the area, the Arab-Israeli conflict and the unsolved Palestinian problem have also contributed.

The enormous increase in their wealth has proven difficult for the traditional structures to absorb. Secularization trends have provoked reaction from the



religious authorities; the values of Islamic civilization have come to loggerheads with the Westernization process; largescale emigration from the Arab countries and the countryside has created an extremely volatile urban sub-proletariat which has fallen easy prey to subversion; the huge financial resources have led to lopsided development, breaking down the traditional socio-political equilibria, and causing people to question the legitimacy of the traditional ruling classes; the West has scant possibilities for intervention, and can certainly do little to attain any concrete goals. The area's strategic problems cannot be solved by taking a strategic approach to them. What the West has to do is to work with the local élites to design an extremely "soft" and well-articulated strategy based essentially on financial resources and technical assistance to avoid socio-politico-economic upheavals. Such a policy should respect the independence and specific features of each country, and be designed to identify the type of economic relations they should have with the West, not based solely on trade but also strategic considerations, to obviate the destabilization of the whole area.

Carlo Jean

Fabio Isman, "Angioni - Noi a Beirut", ADN Kronos, Rome, 1984, pp. 127, L. 16,000.

The Author, Fabio Isman, was an eye-witness of the events of 1982, and has written this thorough and complete account of a period that will go down in the annals of history. It begins with the words of Sandro Pertini, President of the Italian Republic, and

Defence Minister Spadolini, and continues with the account of the Commander of "Italcon", following the events accurately as they happened, with personal comments and judgements that bring them to life with vivid realism.

The reader is led through those small and great events in the life of our Lebanese peace-keeping contingent (the departure, the welcome they received, the slaughter, the heartwarming stories of Governolo Ibrahim, and the contingent's "mascot" Mustafà, the camp hospital, the Red Cross nurses and so many others) to re-live the atmosphere of the moment; and the words and thoughts of General Angioni, offer a first-hand impression of the problems of the present and the future. The illustrated tables provide considerable detail on the salient moments of the operation, and show the scale of Italy's commitment, without false modesty or exaggeration.

The 120 photographs taken by well-known reporters are not merely decorative but are indispensable to satisfy the deeply-felt need to capture a gesture or an expression that sum up the deep significance of a social situation that words are unable to describe in terms of all its human implications.

Fabio Isman successfully manages to show how the social reality of Italy and of Lebanon are linked through the person and the deeds of General Angioni, subtly studying every aspect of his personality as a soldier and as a man with minute attention to detail.

The Commander of "Italcon" becomes transparently real, and through him the reader can share the commitment, the anxiety, the activity and the danger which our soldiers lived through with such great dignity, in the knowledge that they were actors on a stage of suffering – but not

resigned – humanity, awaiting the peaceful outcome of a conflict that has gone on for far too long.

This is what the book is about: our soldiers, under good leaders and not exposed to useless risks, brought peace to a distant land, and managed to keep that peace and defend it with humanity, but also with firmness, winning the praise of the country, and the esteem and affection of the people in whose country they operated.

Claudio Magris

Franco Angioni, "Un soldato Italiano in Libano", Rizzoli, Milan, 1984, pp. 154, L. 14,000.

General Angioni is the Author of this book: it is difficult, very difficult, for a soldier to speak about what another soldier has written without seeming to be partisan or being carried away by the sentimental substrate that is shared by all the men who have made the Army their way of life, whatever their rank.

But the occasion is too obvious to ignore, and it is useful to begin by saying that, however one might interpret it, the "Italcon" Commander's book is a formal and substantial document that had to be written to set the seal on an operation which began amid controversy, scepticism and even sarcasm, but which ended with the consensus of everyone. Using a clear, straightforward style, the Author gives an accurate chronicle of the events of those days, and provides a keen insight into the political/military aspects of the operation in detached, down-to-earth language that is accessible even to a layman.



The background and the history (for that is what it is) of our expedition in Lebanon are set out in simple, refreshing terms, revealing the intimate personal involvement of the "Italcon" Commander in the daily life of a people overwhelmed by war. Aware of the enormous responsibility weighing heavily on his shoulders, and of the great importance of performing his duty by remaining impartial, General Angioni – a man as well as a soldier – also allows something else to emerge between the lines: pride.

And this is only right and human, because a man who has stood firm, organized and lived in peril for 18 months, is entitled to feel proud of never having uselessly placed the lives and safety of his own men in jeopardy, of having managed to carry out the task entrusted to him in an extremely complex and mobile social and political situation, earning the local people's affection, their gratitude to the Italian contingent, and winning the respect of the other countries' contingents, and of its own countrymen.

Apart from the anecdotes, the large and small events, and the short sketches of the daily routine this book also reveals something that is never spoken about explicitly, perhaps out of a sense of modesty: the reality of the Italian Army. For it is a "reality", not an "image", which is better left to the messages that travel in the mass media. And this "reality", made up of so many small day-to-day problems that are still awaiting a solution, is that of an efficient conscript Army, and above all, one which is constantly committed with humanity and firmness to maintaining the peace. If this is what General Angioni intended to make clear with this book, well, he has been completely successful.

Claudio Magris

M. Angelozzi and U. Bernini: *"Il problema aeronavale italiano - Aspetti teorici ed attuali"* (The problem of the Italian Naval Aviation - Theoretical and topical aspects'), Belforte, Leghorn, pp. 268, L. 12,000.

This is an excellent book. With a carefully prepared bibliography, and an appendix giving extracts from the laws on military supplies, it sets out the subject matter masterfully, starting with the historical background to the use of aircraft by the navy, and moving through to a description of the modern navy in Italy and abroad, and ending with an account of what naval aviation solutions might be adopted in Italy in the future. The authors are highly qualified to write on this subject: both are Vice-Admirals, both are lecturers on naval military art, and both have a vast wartime experience at sea and in the air.

At least three types of readers should read this book: the man-in-the-street (and tax-payer) who wants to find out more about such an essential aspect of the things that have to do with recent wars and the state of national security today; members of government or parliament, who have to legislate, and who do not wish to play things by ear any longer, merely in terms of short-sighted sectional interests based on political patronage, but intend to be in a position to look after the country's defence interests with wisdom and farsightedness (perhaps by re-reading the 1932 "Bonzani Report" that was dismissed out of hand – together with its author, a Senator and a General – by Mussolini); and senior "technical" defence officials who do not wish to remain slavishly attached to the mortifying "parochial" mentality which views everything in terms of individual branches of the Services, or Corps, or specialism, etc., or worse still, to the "polit-

ical" mentality, which always looms large on the horizon of the sunny countries.

Very briefly, the book is divided into seven parts. The first deals with the beginnings of naval aviation and use of aircraft in World War I; the second discusses the use of aircraft between the wars and during World War II; the third examines the present state of naval aviation in the world's major countries; the fourth looks at the Italian Navy; the fifth deals with the navies of the United States, the Soviet Union, Great Britain, France, and West Germany; the sixth examines the need for an integrated naval aviation instrument; the seventh gives a general overview and looks ahead to possible future solutions.

The purpose of the book is to remind the reader that "Today, Italy is the only country in the world with large Armed Forces whose navy is not wholly free to choose the naval aviation facilities it considers to be the most appropriate to conduct operations falling within its sphere of responsibilities". No-one can deny that "unity of action" is impossible without "unity of command", and that any form of "cooperation" – which is often a necessary and indispensable expedient in emergencies – can only be rationally justified when there has been a lack of the most typical, the most important and forward-looking command action: coordination.

This is the first lesson to be drawn from this work.

In Italy, we should not forget that the first man to understand the significance of naval aviation, "even in small seas" and to call for "air torpedoes", was Admiral Thaon di Revel, Chief of Staff of the Italian Navy in World War I until he went into voluntary retirement in 1925, followed by a small group of scholars. Neither should we forget Admirals Ja-



chino and Sansonetti, who held the exact opposite views in perfectly good faith.

Certainly these are facts that belong to the past, but new light has now been shed on them by the "wisdom of hindsight", and the authors have done well to remind us of them: the politician must always be on his guard against technical colleagues who are over-keen to subscribe to current thinking or to advocate theses just because they happen to be in vogue and favour at the time. This is the second lesson of the book.

Lastly, it should be remembered that naval warfare has shown that "aircraft have to conduct search, identification and strike actions in a chronological unity of action with the surface vessels and submarines". This lesson, which updates the theses (ignored under Fascism) advanced by General Amedeo Mecozzi about assault planes and follow-on planes ("counterforce strategy and tactics" and "aircraft as the main combat instrument under all environmental conditions" as we would say today), seems to be the third lesson that the two Admirals wish to impart.

Giorgio Anedda

William H. McNeill: "Caccia al potere: tecnologia, armi, realtà sociale dall'anno Mille" (The pursuit of power: technology, Armed Forces, social reality since the year 1000), Saggi Feltrinelli, Milan, 1984, pp. 386, L. 38,000.

This title is very promising – perhaps excessively so, running the risk of telling us what we already know: a close reading of Clausewitz shows that war is the

result of a complex interplay of forces (in which the ingredients given in the book's title account for the *magna pars*). And we are all familiar with a work that was first published in 1956 entitled, "The Social History of War" by R.A. Preston and S.F. Wise, and which also aspires to deal with a similar subject.

We have deliberately used the word "aspires", because while its American author, McNeill, a lecturer at the University of Chicago, has a praiseworthy capacity for typical Anglo-Saxon empirical simplification, in addition to access to a rare variety of sources, a work that sets out to cover so much ground cannot be immune to omissions – some of them glaring – or to ill thought-out interpretations, or faulty forecasting.

It is therefore hardly surprising to find that the author (except when he deals with the Renaissance period) restricts his study to the triangle France-Britain-United States (is that always fair?) or, *more solito*, fails to go very deeply into the internal, organic/tactical aspects of the development of military institutions.

Despite the wide array of forces that the author evidently sets out to deal with, judging from the title, technology is put across as having a central role, almost the sole motive force of strategy and the resultant changes in the military structures since ancient times. It is probably this that led the Italian translators of the work to mistranslate "Armed Forces" as "armi" (= weaponry) and "pursuit" as "caccia" (which is a more aggressive and adventurous hunting term indicating a "thirst" for power), which undoubtedly better reflects the bitterness of the internal and international struggles that painfully lead to the changes.

Apart from the limitations that are mostly unavoidable, the book

does provide an extremely useful interpretation for an understanding of events that are looming darkly over the present age, such as the runaway arms race and the chaotic, irreversible snowballing of the causes. One very clear parallel with the present situation is the chapter on the crucial period 1884-1914, in which, according to the author, the interplay between politicians (and the hard-headed socioeconomic motivations that influence them), the military and industry was intensified. Whatever the political system might be, this inevitably leads countries to resort to the automatic adoption of political/military measures and to very rigid centralized planning, which constituted one of the main causes of the first world war. One of the things that spoils the book is the author's sympathies, here and there, with the threadbare commonplaces that belong to conventional antimilitarism, in a work that otherwise takes a serious scientific approach. However, we are duty-bound to note that these outbursts (such as when he views the military man as a "macro-parasite") in no way detract from the overall soundness of the analysis in which he sets out to refute them, giving the reader a fairly faithful and objective view of the interests, aspirations, and the composite spiritual, moral and material forces that inevitably condition the life and the development of every institution, including the military institution. It shows that the difficult (past and present) relationship between the military institution and technology is not all that different from the complex interplay between technology and civil society, with all the agonizing changes that are being demanded by or imposed on it, and which is the main issue of contemporary society.

Ferruccio Botti

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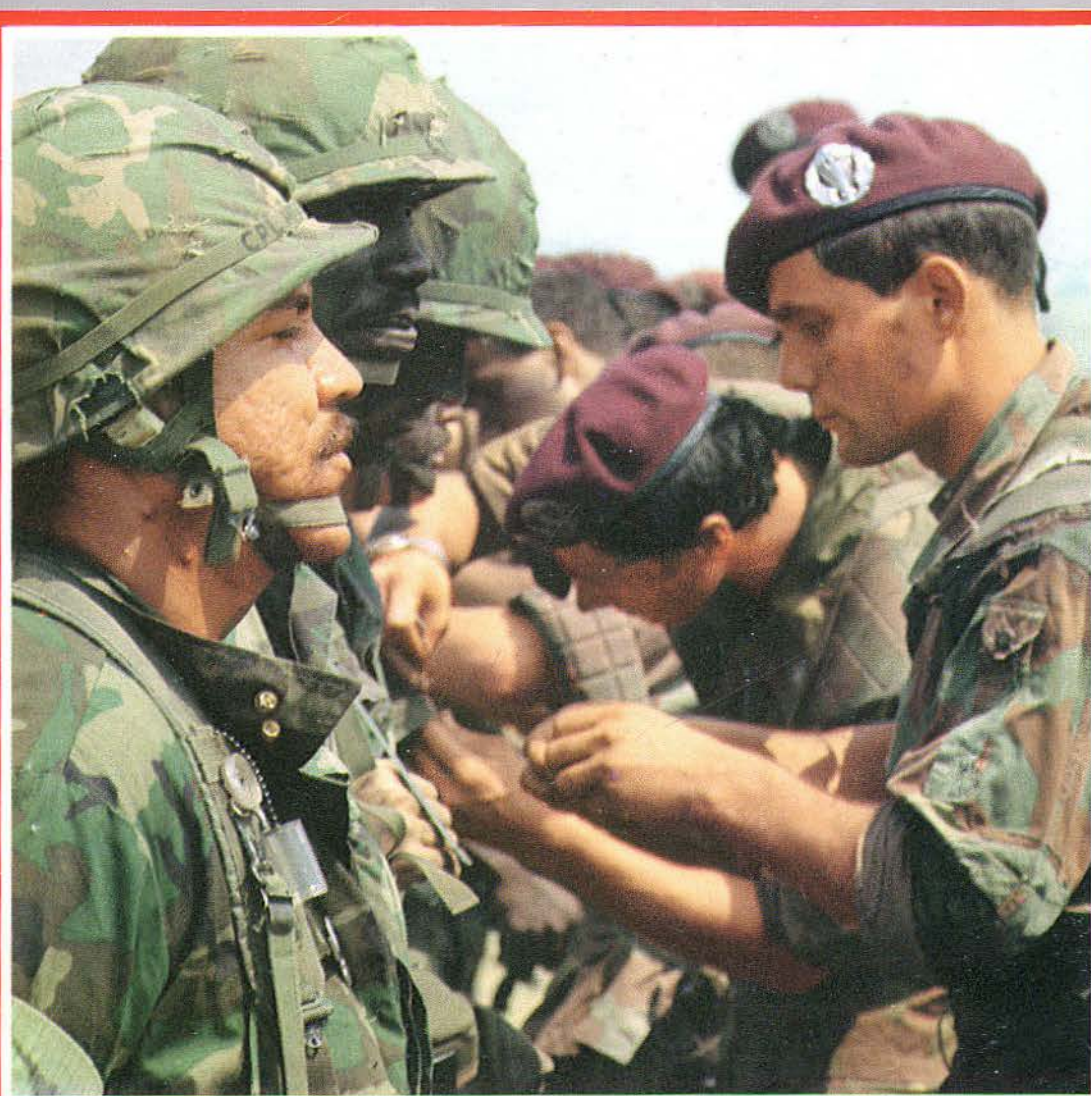
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INTERVIEW WITH
GENERAL UMBERTO
CAPPUZZO ON THE
STATE OF THE ARMY



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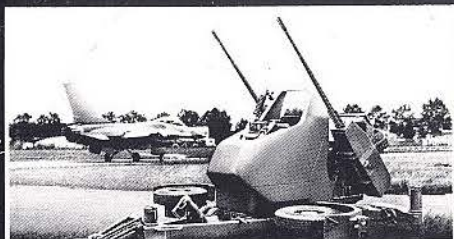


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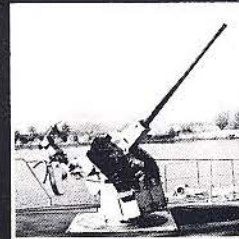


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CONTENTS



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The aim of the Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. The Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.



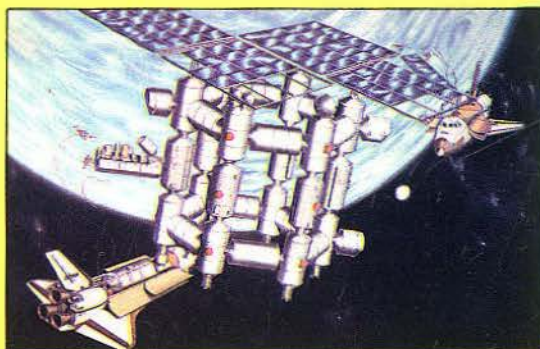
**Interview with General
Umberto Cappuzzo on the
State of the Army.**

2



**The United States and
Russia in the Last Century.**
(Ciro Di Martino)

24



**Towards Enhanced
Feasibility and Credibility
of the «Flexible Response»
Doctrine.**
(Vittorio Bernard)

44

**New Tasks in the Footsteps
of Tradition.**
(Pier Giorgio Franzosi)

52

**The Unified Defense of Europe.
A Dream or a Real Prospect?**
(Vittorio Barbati)

60

Soldier Woman.
(Fiorenza Taricone)

66



Technical Data.

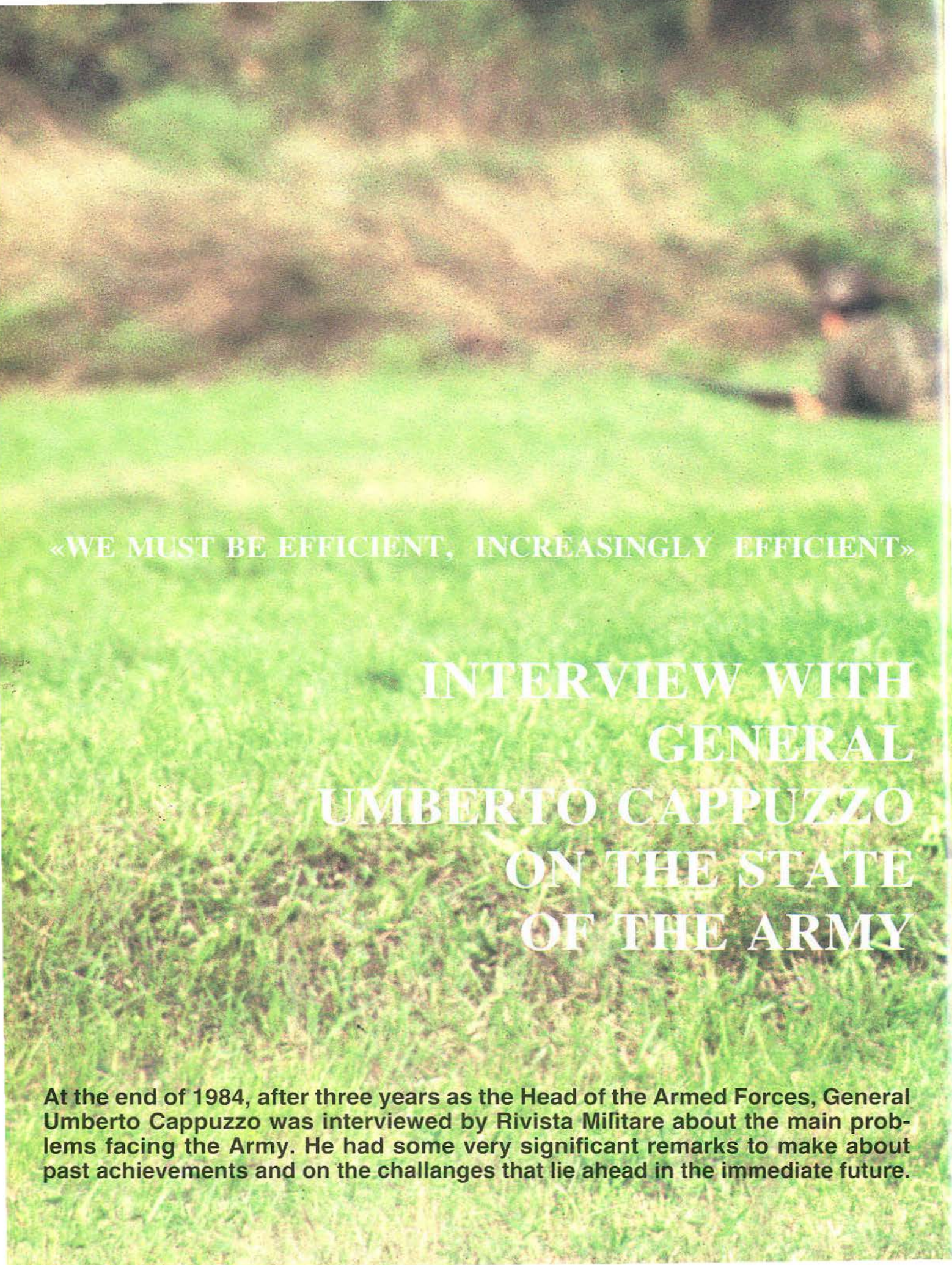
76

Book Reviews.

84



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A blurred background image of a soldier in a field. The soldier is wearing a helmet and a dark uniform, and is positioned on the right side of the frame. The background is a mix of green and brown, suggesting a grassy field with some trees or bushes in the distance.

«WE MUST BE EFFICIENT, INCREASINGLY EFFICIENT»

INTERVIEW WITH
GENERAL
UMBERTO CAPPUZZO
ON THE STATE
OF THE ARMY

At the end of 1984, after three years as the Head of the Armed Forces, General Umberto Cappuzzo was interviewed by Rivista Militare about the main problems facing the Army. He had some very significant remarks to make about past achievements and on the challenges that lie ahead in the immediate future.



Which of the basic problems that you have raised so often in the past are most relevant at the present time?

I'd like to put myself in the place of the head of a particular sector, interviewing himself, as it were, not so much to pat himself on the back for what has been achieved but to take a hard cool look at the reasons why more has not been done.

This is the best way of speaking one's mind and giving vent to one's feelings, criticisms, and reasons.

We've tackled a great many problems, believe me, and we've looked at just as many solutions, some good, some not so good. But as for the results, that's another story.

Are you satisfied?

Fairly satisfied, as far as regards the objectives I set myself,

and the ones I have managed to attain in the meantime.

Very satisfied, if I think of what the officers and men have managed to do, with such generosity and so much professionalism. And this is all the more satisfying when I think of the difficulties they have had to overcome.

It's not a matter of being pessimistic or optimistic; just of being objectively rational.

Personally speaking, I would describe myself as an "optimist" in my real function as a stimulus, urging on large numbers of fine colleagues, all of them working conscientiously.

As someone else once described himself, I'm what I would call an "optimist of the will", and this is quite useful because it pays off, sometimes surprisingly well.

But we are not content with what we've achieved, and never can be.

We have to be demanding, ever more demanding.

What is the state of the Army today?

When I talk about the state of the Army, I could very easily start complaining about all the things that have not been done because it was impossible to do them, but that's not the problem. It's not just a question of asking for cash that we don't have, or demanding the attention that we often feel is lacking; above all, we have to be clearly aware of our full potential, and coolly see how far we have made the most of it, and if not, do even more to understand the misgivings within our own ranks, to overcome them by remaining continually vigilant and steadfast without any half-measures.

To achieve what? To have an Army that is credible. This word "credible" is used and abused by everybody, without really knowing what exactly we mean by it. An Army, a structure, an Institution is only credible insofar as it can



project an efficient image of itself that matches up to what the outside world expects of it.

A military Institution has its internal credibility, which is the degree of prestige it enjoys in its own country, and an external credibility, which is measured in terms of its capacity to express a certain potentiality where necessary. And in the case of a country like Italy, which only wishes to defend itself, this is expressed in terms of its defence capability.

And so in the eyes of our citizens, credibility means dependability and reliability, in terms of a great many moral and material factors.

In this connection, I have to admit that the situation has recently improved enormously, compared with what it used to be.

Public opinion towards us is different today; the public now understand us, appreciate us, and quite often admire us.

There has been a change, and a considerable one at that.

There are many reasons for this, and it would be very interesting to examine them.

A single event, or a series of events may have brought about what I would not hesitate to describe as a "U-turn" in public opinion.

Let me say at once that I am not trying to claim the merit for things that are none of my doing, because the strength of an Institution like the military institution stems from the continuity of certain policies in terms of the function that it has to perform; but what I think has played a decisive role has been the way we have opened up to society, trying to establish a relationship in keeping with the times.

I feel that it is this search for a relationship with society that constitutes the genuine value of any organization that is truly the expression of our democracy. Italy has never been a militaristic country (and that is no bad thing!). But I would go even further, and say that Italy has never been deeply concerned about military issues (and this puts us at a disad-



vantage!).

And in view of the fact that we have been through some rather painful historical events that have certainly not helped to enhance the image of the Armed Forces, it is easy to see why some of these attitudes exist.

But I don't want to dwell on these aspects, even though they also deserve thought to remove so many misinterpretations; yet I should like to stress the fact that there has never been wholehearted appreciation of the military Institution in Italy, in good times or bad.

So it was high time for things to change.

What is your ideal Army?

My ideal is a "Militia Army" – an Army that the people see as belonging to them, and which therefore expresses not rhetorical "militarism" – which belongs to another age altogether – but an advanced sense of civic duty.

When this is achieved, the security function is acknowledged

for what it is: a social function, above all else.

If the country were fully aware of this, and if the majority of the Italians agreed that "spending a period of time to help their country" in the Army was for the good of everyone's security, performing a service that gives a meaning to "being" or "feeling" Italian, that would be a great stride forward indeed.

But to reach that stage, we have to open up, get the public to understand us, and get across to them.

As far as contacts with society are concerned, everything that I have been striving for has been aimed at these objectives which I deem to be of vital importance.

Then, as I said before, there is the question of external credibility.

External credibility means the impression of efficiency that outsiders have of our military instrument.

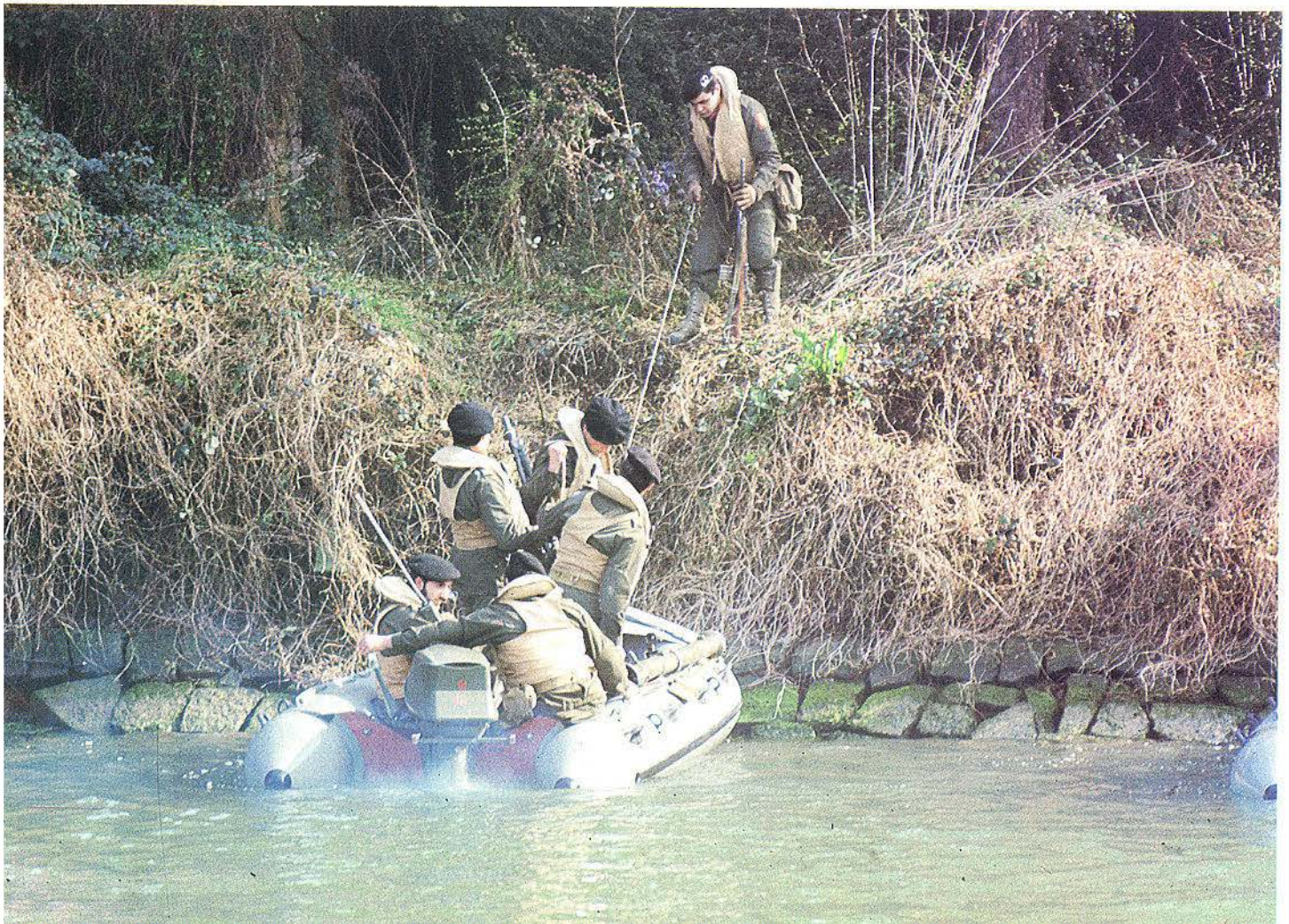
Basically, it is the degree to which they believe in our Armed Force's defence capability.

This raises one immediate question.

In view of the resources at our disposal, and the fact that our soldiers are only available to us during their period of conscription, and considering the general economic and financial state of the country, what can we do to get an Army that offers a guarantee of an adequate defence capability?

Apart from the undeniable need to have enough facilities of the required quality and type to respond to any hypothetical threat, the number one problem is training – in all its aspects.

And this is where we come up against misunderstandings of all kinds. Many people will tell you that they acknowledge the validity of the "defence function"; but very often this is no more than a theoretical act of faith. In practice, many people – including many of those I've just referred to – stress the damage we might do to this area or that if it were to be used for training purposes, in the name of economy and environmental



conservation.

This explains all the accusations and demands, and the tiring diatribes about training areas and firing ranges.

Every Regional government would like to spread the burden by offloading part of it onto neighbouring Regions, leading to an endless buck-passing process, that is getting nobody anywhere, which is even worse.

We should be concerned about the lack of viable training sites, if we believe in the sort of training that justifies having military structures at all.

I've done what I could to put the right degree of stress on the training issue, and the response has been positive.

There are a few more things I'd like to add on this point. Credibility also depends on the degree to which an institution becomes a cultural fact. Any organization that has such an impact on social life must necessarily rely on its own culture. And this culture, in the broadest sense of the term, is much more than the specialist/technical aspect of force use, and has to become the mainstay needed to enable the public to appreciate the demands of security.

We have to "invest in culture". It is a high-yielding investment, particularly in the medium and long term.

We've tried to weaken some of the commonplaces that are bandied about, according to which the military world is detached from society, inward-looking and unproductive, almost impervious to what is happening in the outside world, harking back to the past without heeding the future.

And yet we have a great deal to say as far as culture is concerned.

RM You've often said that we need a "cultural revival". What do you mean by that?

I know I'm repeating myself, but no-one will take it amiss. The "cultural revival" that I've so often mentioned comprises three things: organization, method, values.

The "culture of organization", in the sense of being a system



of principles and rules that govern the way the forces are ordered to attain an end, and the resultant structuring of the bodies that make up the command and control functions, is our job. It is our privilege (that is to say, the military in general, without mentioning nationalities).

The "culture of method", in the sense of being a logical sequence of steps in the analysis and synthesis of an operational problem to reach a decision, came into existence in our military environment, to meet our needs. And it has always proven its validity by being taken up in civilian spheres, and that cannot fail to fill us with pride.

This culture, today, is increasingly making use of data processing – so that it is now merging with a "computer culture" – to rationalize the decision-making process to the full. By becoming increasingly rationalized when examining the factors of a given situation, method has now acquired an importance that I would not hesitate to define "moral".

It provides the logical support to decision-taking... without procrastination, and without compromising. The military man is also known for this – his ability to take decisions at the right time, because his operational duties involve clearcut time and space constraints.

When examining different needs, decision-taking involves "optimization". Never compromising.

The last (but by no means the least important) is the "culture of values", in the sense of referring to ethical and spiritual benchmarks, which lays the basis for a command action that involves mind, muscle and heart.

Any Service is efficient if it has modern weapons, but above all if these weapons are entrusted to men who believe in the cause of freedom, independence and democracy. The will to defend the country is essential to the definition of the operational capability of any military instrument.

In an age in which there is a tendency to blur certain values,

it is our duty to revive them – albeit in contemporary terms – to give a meaning to what we are doing and want to do. Without rhetoric, without nostalgia for the past, as such, and without diffidence about the present, as such.

But which values? Civic sense, social solidarity, the spirit of service to the community, the nation as the epitome of commonly shared ideals, participation as the expression of democracy, discipline as the need to live in a community, duty as the respect one owes to the rights of others.

In short, duty above rights.

These three "cultures" – organization, method, values – underpin the main one: the "culture of force use". Since strategy, tactics, logistics, personnel, the study of the operational environment, military history, psychology, sociology etc. are all used to prepare, manage and use an instrument to perform a task, they constitute a specialist interdisciplinary whole.

It is an interdisciplinary whole which, in the modern world with





the fundamental problems of force ratios between blocs and individual countries, constitutes the substantive element for an understanding of international relations.

These relations are increasingly marked by the effect of the "military factor".

Being designed to ensure peace, security is a political goal which is also pursued by military means.

The "culture of force use", which is the very *raison d'être* of the military system, transcends the system itself to become the vital key to understanding the international equilibria. It therefore has to do with what I call the "layman's world", as well as our own.

/// Does all this form part of a "culture of security" that has to be put across to public opinion?

Certainly it does.

The "culture of security" is a reality.

This is true abroad, in the advanced Western world, in the industrialized countries – where there are now a great many "Centres of Strategic Studies" that are dealing with the same complex issue – and it is also true (albeit rather differently) in the Eastern world.

It is a good sign that something is also moving in Italy. The Universities are even showing interest. This is quite a comforting sign, and it is the measure of an awareness that cannot be put off any longer. The positive fact is that the "security problem", which is of first-hand importance to us, is no longer the privileged preserve of the military alone.

Indeed, the military component is just one among many, albeit a very important one. And in the framework of global strategy, all these components must work together to express the reality of the relations that exist between people and between nations. The culture of security is a major chapter that has now be-



gun as a direct result, to my mind, of the traumatic impact of the "nuclear fact" in the immediate post-war period, and which is gradually becoming enriched.

It is a field in which the military have a great deal to say, and this involves them more closely in the great panorama of the national and international political scene, as skilled professionals and experts on the paths of peace.

Turning now to the military structure, what are the main achievements in terms of personnel, in the past and the immediate future?

We must draw a distinction, here, between the professional personnel, the officers and NCOs, and the conscripts.

The officers and NCOs are the mainstay of any branch of the Armed Forces today. A modern Service is what its officers make it, and the contribution its officers make to it. It is therefore vitally important to look after the officers

and NCOs if we want to keep our eyes responsibly on the future. This means, first of all, defining in advance the optimum profile of the Officer and the NCO that we need in our units, in terms of our future requirements.

From the very beginning of the training process, we therefore have to know what approach to take, and what developments we have to achieve to reach the configuration we desire.

If I may turn now to the officer embarking on the Academy course, the biggest problem as we enter the age of "push-button warfare" is whether the typical profile of the traditional Officer is cogent with contemporary needs, or whether a partial or complete change of profile is needed. This brings us to the well-known dilemma: Is the Chief a Commander or a Manager? I've always been totally opposed to drawing distinctions of this kind. To me, an Officer is a man with the right kind of educational background to equip him to be both a good Commander and also a good

Manager, in the various stages of his career, and according to his functions.

Rising up within the ranks, there are certain managerial functions that prevail even over the pure command function, but both these functions are intimately linked right from the start. This is why the curriculum designed to meet both these requirements comprises both the humanities and the sciences, plus information technology (IT) to deal with the new possibilities it offers to the other disciplines. Taken together, these disciplines educate an Officer to be able to undertake a number of different duties with increasing responsibilities, all of which are designed to involve the use of men and materiel in an operational context to meet the country's security requirements. As you can see, it is a very full curriculum, and even though the young men entering the Academy have to pass through a tough selection procedure before embarking on this four-year course, they are not yet awarded the equivalent of a university degree at the end, despite our attempts to gain recognition.

We have spoken often, and at length, about degrees, but there are still no short-term solutions in sight, and meanwhile discussions are still going on about whether preference should be given to courses in "military sciences", or – if that name does not appeal – "organization science".

And yet the men graduating from the Armed Forces' leading Educational Establishment possesses a sound cultural education, and equally importantly, they have consolidated their psychological aptitudes... in a country where one can hardly say that academic qualifications are in short supply!

Until one of the many Bills is eventually enacted to deal with this situation, the Army General Staff have taken a decision as an act of faith in the soundness of our commitment: the specifically technical/professional subjects are now taught as part of a more broadly-based syllabus with a choice of other subjects – science, law, economics, or mathematics

— so that at the end of the 4-year course, the graduates are as close as possible to a degree standard (and able to sit exams at civilian universities), or could even be awarded a degree in some cases by the Academy itself.

This is a very important step forward that should be carefully examined.

In addition to the question of the actual syllabus or curriculum, we must have Commanders with outstanding personal qualities, whatever the curriculum.

This is something that we have to bear in mind at all times.

In addition to the education received at the Academy, the students have to complement their education by attending specialist courses at the War College.

This new approach is increasingly showing its worth.

We are very satisfied to see the excellent results attained by a large number of Officers who are able to return to their desks in a school that is very demanding, and who modestly but enthusiastically give the best of themselves to be successful, without demanding anything in exchange.

This is a further demonstration of the fact that the “spirit service” of our colleagues is not just a meaningless expression, but a reality that brings honour to our Institution.

The War College is increasingly taking on the character of a post-graduate Institute, which deals not only with the problems of force use — ie. planning, programming, management and leadership — but also security in terms of a strategy that involves everything and everyone.

The “global strategy” approach is something new, offering methodologies rather than mere knowledge, and it makes it easier to deal with the major issues of our age, to better understand the rationale of international relations, to give a sense to the balancing game, and accurately define the role and function of every component (political, economic/financial, industrial, psychological, military), defining their positions in a comprehensive frame-

work.

This is the modern approach that is absolutely vital if we are to solve the problems of security and hence of peace.

Only in this way can we train our Officers to make a valid contribution to analyzing current affairs and to finding solutions to the many problems that relate to our defence.

All of this has to be done by taking an inter-Service approach, and an ever broader NATO Alliance-oriented approach. Broadening our horizons in this way, placing our military world in a privileged position, will do much to broaden the vision of our Officers and NCOs — or at least a large proportion of them. There are few classes of the Civil Service that can boast of results comparable to ours in the process of “de-provincialization” which — to my mind — is what any organization must necessarily strive for if it is to measure up to the complex challenges of our age.

Broader horizons, to meet specific functional requirements,

the practice of command or work in structures involving several Armed Forces, membership of NATO's operational and logistic bodies, rubbing shoulders with representatives of other countries, joint manoeuvres, attending courses abroad: all this has helped, and continues to help, to bring our Officers and NCOs up-to-date, and even to place them in the avant-garde.

We can be proud of that.

I would also like to add that, quite apart from its political, military and ethical significance, NATO has been a great opportunity that has taken us out of our domestic garrisons and places us on the worldwide stage, getting us used to looking ever further and ever more deeply at the political, military and social situations in the countries of our friends and Allies, and in those in the opposing bloc.

We have become accustomed to scanning the horizon, reaching beyond the daily routine, and the usual repetitive working patterns, and we are now used to making



comparisons between others and ourselves, learning from it, deriving hope from it, and gaining confidence.

Talking about the Officers who graduate from the Military Academy has taken me into a vast field, and I would just like to apply what I have said to the other very important source of recruits: the Ruolo Speciale Unico.

This is extremely valuable to us, and it is enhancing professionalism all the time, not so much because of the measures that have been introduced as far as curricula are concerned, with the institution of the technical/practical course on admission, but above all thanks to the high degree of specialization in the use of these soldiers in posts that are of vital importance to the Armed Forces, in which a long period of service has to be encouraged, instead of frequent staff turn-overs.

It is often said that the NCOs are the Army's backbone. And

they certainly are. But unfortunately, manpower shortages make it necessary to take make-shift measures (combining duties etc.), which discourages the men and tarnishes the overall efficiency of the Commands and the Units.

NCOs form a group which deserves very close attention.

The 1983 Army Act was a great step in the right direction, in that it acknowledged the rightful aspirations of these very valuable NCO colleagues.

There is still a great deal to be done, however, in view of the duties expected of the Army in areas that have hitherto remained exposed (air defence, battlefield surveillance), and in other sectors that have to be strengthened by introducing new technologies or through the natural development of the ongoing innovation processes (for example, transmissions and command and control).

Three avenues need to be

pursued: more manpower, more specialization, and more motivation. I am very keen on the last of these three. The potential of any category of men, in the right numbers and with the right skills, can only be fully expressed if that category is given the chance to give of its best in everything it does: in other words, if it believes in what it is doing.

There is one way to achieve this: making everyone feel fully responsible for their actions, whatever duties are assigned to them. Not just formally or routinely responsible, but genuinely responsible, to ensure that they identify with what they are doing.

The Officers and NCOs have their own problems – a great many problems – but they nevertheless manage to devote themselves to their work with a dignity that it would be very hard to find equalled anywhere in the country.

This is yet one reason more for commanders and managers



to do all they can to solve these problems.

/// What is your assessment of the new "Promotions Law"?

Promotion and career development is one of the most serious problems of all. Our career is highly selective, and first class men in full possession of their physical and intellectual vigour find themselves "shaken out".

What is to be done?

A great deal of hopes have been pinned on the new "promotions law". Promotion is a very thorny question, as I have indicated. It is a matter of reconciling needs that are totally incompatible.

Firstly, from the functional point of view, military law has established a pyramidal structure, such that the number of officers at each level must necessarily be smaller than at the level immediately below, which gradually squeezes out the numbers of officers eligible for promotion as you

move upwards, reducing the selection ratio.

Secondly, from the social point of view, if individual interests were followed, the ideal career structure would be cylindrical.

This is the structure that prevails in so many sectors in Italy, in defiance of any criterion of responsibility or merit.

But this wouldn't and couldn't work in the Army.

Yet we cannot close our eyes to the painful fact that we are losing excellent men, with first class training, once they reach a certain stage in the career, at the peak of their physical and intellectual vigour.

These are people who, precisely when they would be able to give even more of themselves, and precisely when they need to stay in their job in order to provide their family with a decent minimal standard of living, are discarded, without any chance of being useful in any other productive area.

This is the problem that has

to be solved. The ideal would be to decouple our peculiar system from the civilian salary system, so that anyone leaving the Forces early on having reached the maximum age limit for his rank should be offered a form of administrative compensation. This would reconcile social requirements with institutional demands. We are moving in this direction, however, and are trying to gain full acceptance of the atypical nature of the military career. The promotions law provides for promoting higher proportions of men – coupled with a lower output from the Academy. But this cannot meet the aspirations of all our men. Some will still be unhappy, even with the law. These will be the ones who – through no fault of their own – will not be eligible for further advancement.

I would, however, like to add that whatever the "promotions law" says (and the present one is not all that bad, in principle!), the important thing is that the va-





rious laws and orders that are issued piecemeal should not undermine the rationale of career development and promotion, at any given time under this or that particular law.

To be functional, a law on promotions has to be based on a strictly observed rationale that remains valid not just for 5 or 10 years, but for a minimum of 25-30 years.

The emphasis that our system places on selection is only a means of drawing attention to the peculiarity of the military career, which has so many different features which need to be recognized.

We have always fought to get this recognition, and we shall go on doing so.

Not to defend corporative interests, but to emphasize the principles of equity and justice.

If the military profession, to which we are proud of belonging, imposes a great many restrictions (the obligations deriving from our particular status, limited age range, slower career development prospects, lower promotion rates,

greater mobility, greater risks and responsibilities, discomfort and inconveniences of all kinds), there has to be some reward, to compensate them. And I'm not just speaking of material even though these must not be overlooked either.

Yet the external world – even from this point of view – neglects us, viewing us with detachment.

As the spokesman for these demands, I have to make it clear once again that the General Staff wishes to do everything possible to protect the interests of the personnel. I can't discuss the measures one by one, because I have just sent a comprehensive summary of all the things that are currently under examination to all the peripheral Commands, so that everybody knows exactly where we are.

What about the new "Framework Law"?

We have to pay tribute to the Minister of Defence, Senator Spadolini, for his sensitivity to our

problems, which has led him to tackle them as a whole under the Framework Bill, which I've already mentioned. Let's hope that when it is tabled, Parliament will fully appreciate its moral significance, above and beyond the matter of salaries.

What are your views on compulsory military service?

I will merely repeat what I have said on many occasions in the past: compulsory military service – the draft – is very positive on moral grounds, and is in keeping with the Italian Constitution.

From the point of view of force use, we have to recognize that our soldiers have shown their worth when working alongside the professional Armies of our friends and Allies, as is normal practice during NATO exercises. They have earned respect, and they know how to earn it.

An even more evident proof of this was peace contingent's 17-month experience in Lebanon.

I don't want to repeat what I've already said many times in the past, but we are duty-bound to recall the fact that what our soldiers achieved in that highly critical area received the unqualified praise and admiration of everyone, in Italy and abroad.

We should be proud of this, and it should give us cause to consider the efforts that our magnificent officers and NCOs make every day, despite all manner of obstacles, without asking for anything in return. And we should remind others of this too. What a wonderful example they set for the country! And it should also cause us to think about how much more could be done – by improving the situations in which we have to operate – to make our efforts more productive, with a modern approach to efficiency, in terms of costs and benefits.

I'm thinking, in particular, of the need to increase the number of men on longer-term service for more highly specialized duties (NCOs and volunteers). Today this has become indispensable if we are to cope with the demands in vital sectors. It will enhance

the stability of the instrument, and raise operational levels.

In this way, we would reach the optimum solution by striking the right balance between the proportion of longer term servicemen to conscripts, which would bring the Army in line with the times.

All that has been achieved already, and the prospects that lie ahead should help us to clear the air and get a better understanding of the complexity of our problems. This complexity demands an expert eye to work out the right solutions, and improvisation and trial and error is out of the question.

Yet how often have we had to sit and listen to civilian know-alls lecturing us, and telling us that they are ready to implement the boldest reforms...

In the interests of efficiency, of course!

You have constantly stressed the importance of training. What are the most significant recent developments in this regard?

I'm a fanatic about training.

A peace-time Army can only be justified if it produces security. It produces security, in the present context of deterrence, if it is credible.

It is credible, only if it meets a certain number of requirements (I've just mentioned some of them), of which preparation is by no means the least important. And preparation is essentially training.

When I was a lieutenant, there used to be a fashionable English slogan – "More sweat, less blood".

That is just as true today, if not even more so, as it was then.

Apart from the recriminations about equipment, the Armies that demonstrated greater operational capability in World War II were the ones with the most thorough training.

Training today means method, realism, commitment 24 hours a day, unflagging application, provided that we have adequate sites for it and sufficient munitions. It also demands

imagination, a pedagogic approach, the ability to overcome routine, personal involvement.

The results?

Without indulging in rhetoric, which I detest, I would say that the results have been positive.

The revival of training was one of the first objectives I set myself when I took up my post in 1981.

There are three kingpins around which effective training hinges: simplicity, realism, emulation.

Everything has to be done to ensure that the commanders – particularly those who spend the longest time in charge of the units at their level – are not frustrated by repetitive and monotonous training duties, cooped up in areas that are too small for the purpose and lacking in the features required, with inadequate numbers of personnel (for too many are, alas, creamed off to do other duties), going to waste because of the many operational and didactic constraints.

The Commanders of the Large Units have the duty to put life



back into this training.

How? Well, this is what the Art of Command is all about.

Emulation – the idea of competition and measuring up to others – is one way. But not the only one.

Sensible training is a game, in which the instructors' capacity and skill are revealed.

Apart from the procedures that have been proven adequate in practice (training by imitation, for example), we have tried to rationalize the system by going back to something we used to do in the past: we've gone back in time, in order to take a step forward.

It would seem that the "single contingent" procedure has met with the approval of the majority.

To simplify things to the maximum – which is what I have always advocated – I have continually said that to be effective in educational and operational terms, any training must concentrate its efforts on the individual, and be geared

to three fundamental activities: firing, physical education and battlefield behaviour.

Once these 3 basic activities have been carefully dealt with, the rest follows naturally. Once trained, the individual combatants have to be brought together to perform activities as a corps, to get the individuals to cooperate in functional groups to use weapons and materiel that need several operators, or to create squads or units for an increasing number of duties.

And even those group activities have also given satisfaction.

The exercises have perhaps not been very spectacular, but we have worked methodically, working on real-life situations, and we have seen that you can allow a great deal of room to imagination in mock exercises which are very much in line with modern warfare situations.

We have tried to break down the "ankylosis of garrison routine"

by moving a number of units all round the country.

But despite all the efforts we have made, accusations have still been levelled against us, even though we are doing our best to make our position clear.

One of the most common criticisms is that we are "barrack layabouts", that our young men do nothing all day long, after being dragged unwillingly away from their families to do their military service, delaying their induction into the working world.

I shall never tire of repeating that some of the functional activities which are vital to an organized community like ours are just as important as traditional combat training, which some categories of men cannot be expected to devote themselves to every day.

There's a whole "machine" to be kept running, if the men are to live and operate.

There's a community of men who, after basic training, have to



make sure that whole logical and operational machine runs smoothly, which keeps them occupied on all kinds of small tasks that are not – I admit – directly connected with warfare. But they are necessary, and they often involve a lot of waiting around... but even waiting around, in this case, is an integral part of the operation of the machine.

What people tend to forget most of all, for example, is that our huge stock of vehicles demands an equally huge stock of drivers, and logistics personnel. One can't expect to keep the whole vehicle stock moving around all the time, just to ensure that everyone is occupied... full-time!

Anyway, even in other spheres, there are often many employees... who loaf around, workshy, and get paid for it, without the country getting up in arms about it!

And while we reject overhasty judgments based on an inadequate understanding of our organization, Commanders at all levels have been mobilized to take corrective measures, to ensure that the "down time" – that is structural in character – is used for general training or functional purposes, not linked to the specialization to which the personnel have been assigned, in other words.

This demands control, which is the very essence of any command action that is not to remain abstract and unproductive.

We want to be – and must be – efficient. Increasingly efficient.

In a recent address delivered at the inauguration of the 1984–85 Academic Year at the Carabinieri Officers' College, I made the following point: "Efficiency means organization, planning, method, the capacity to rationally use men and facilities at the right time and in the right places in order to achieve a purpose and to perform a task. The country is thirsting for efficiency, but it is not enough to demand it. It takes time to obtain it: it takes willpower, constant effort, perseverance, control, sacrifice".



Efficiency can be measured in qualitative terms, but wherever possible it also has to be measured in quantitative terms, too.

Control affects every aspect of the life and work of the units, but in the particular case of training, it is the assessment that decides its efficiency. A modern Army must apply rational methods to assess the levels of preparation of its men, leaving little room for judgments that cannot be quantified (percentage of personnel attending courses, target scores, timing, etc.). Hence the rationale of "emulation" and "competition". Let me say, however, that the purpose of all this is didactic, and not simply to write reports.

What is important is to see the weak points and the strong points, the shortcomings and the difficulties, the reasons for all of them, and then take corrective action to improve the situation as far as it is within our province.

Everything within our province must be done. All of us have

to play our part, insistently urging, convinced that the good name of the Army largely depends on the conscientiousness that we manage to display. Let no-one imagine that they can get away with leaving it to the others to get the message.

Capable Commanders are the ones who are able to see things in depth, and know what's happening "in the corners". Professional honesty requires us to shed light on everything – the good and the less good – to take stock, and then move ahead.

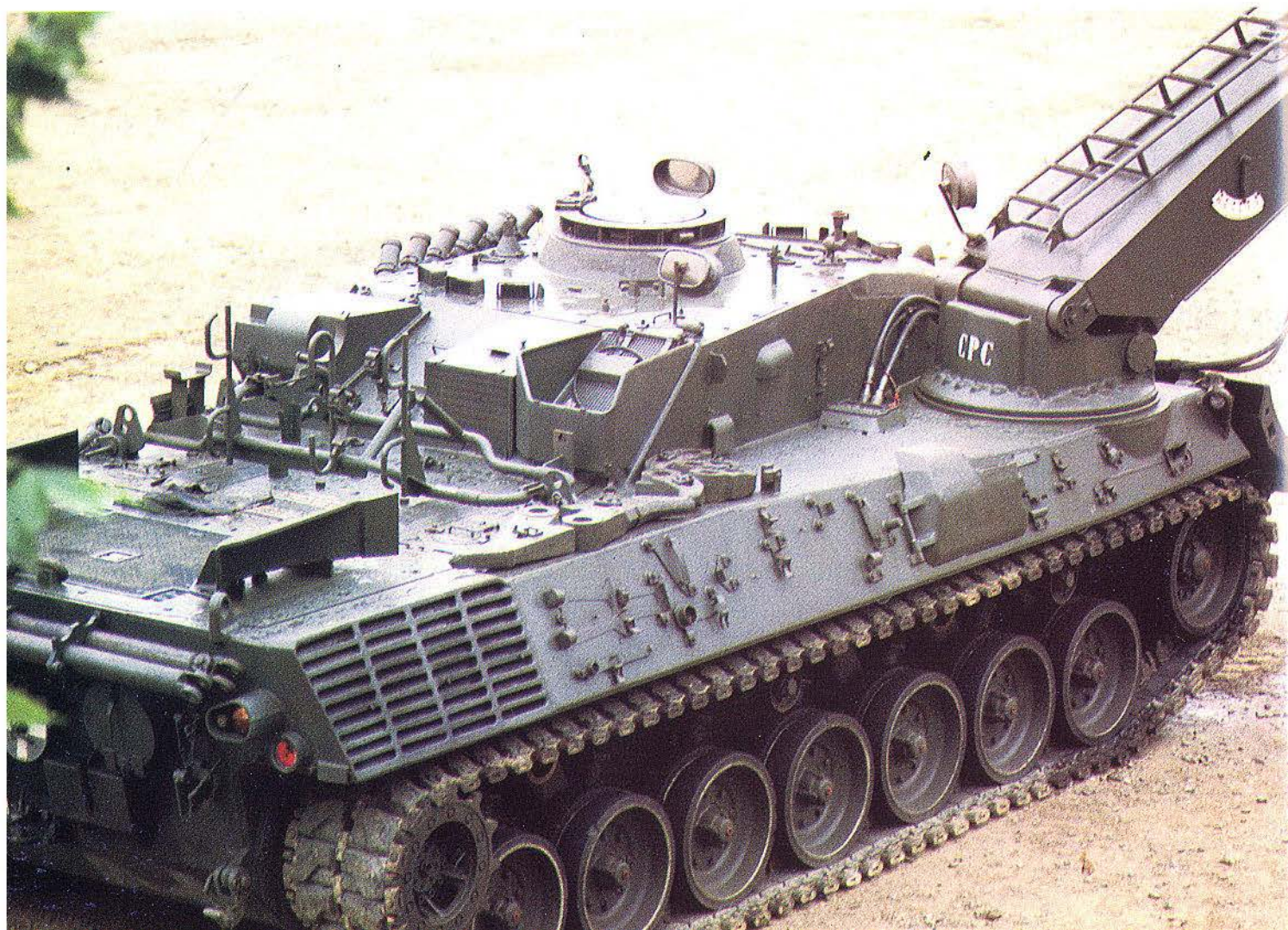
If we all think along these lines – and I have no reason to think otherwise – not only will we meet up to my expectations, but we shall make progress in winning over more broadly-based support, because we shall be responding to an aspiration that is felt by the rank-and-file who, more than ever before, want to be professionals in an environment governed by principles based on "authenticity" and "coherence".

This brings us back to the question of the "credibility" of the organization, in relation to our behaviour and activities, which is a precondition for the "credibility" of the instrument, broadened to include the availability of adequate weapons and facilities.

The first of these – the "credibility of the organization" refers to the man we have to train, prepare and motivate.

What we have managed to achieve already is, in my view, still not enough to meet the needs imposed by modern warfare. On the subject of training and preparation, I have frequently pointed out the constraints imposed by the shortage and inadequacy of training areas to meet our needs.

The "simulator" could help us up to a point, but it costs money, and this means that it will take time before it is brought into general use, and at all events, it cannot cover the whole of the training process.



We will nevertheless go on – financial resources permitting – but we will not delude ourselves.

The “rationale of simulation” is catching on now because of the growing sophistication of our weaponry, and it is becoming vitally necessary when deciding on any programme to enhance and upgrade the Armed Forces. Looking ahead to the year 2000, this is the rationale that we have to come to terms with.

Basically, and without crystal ball-gazing, we may take it for granted that the ideal way of providing a sensible answer to the many problems of force use at individual and group level is by using a computer program and hence a computer, which can reproduce every possible aspect of battle and combat.

You have stressed the fact that the parameters of the Army's efficiency include facilities and materiel.

What has been done in this regard, and what are the future trends?

It's all too easy to say that when we are faced with a threat, of which we know quite a lot in terms of figures and quality, we have to have the facilities we need to carry out our defence duties. This means that we have to match every tank of a certain type by a tank that can compete with it, and that we have to match weapons with a given degree of precision and range by weapons with similar – or better – performance features to make up for the numerical differences.

This kind of competition has led both sides to produce increasingly more perfect and sophisticated materiel, and to complicate matters still further, we now have the so-called “emerging technologies” to cope with.

We can already envisage a new kind of warfare, but I don't want to go into that.

But under these conditions, we have to equip our units with appropriate materiel.

In this regard, I have to admit that the Army is not in the best situation.

In 1975, when the restructuring began, the Army General Staff laid down a 10-year programme to deal with the substantial reductions necessary in the ground forces, and to offset this by improvements in qualitative terms.

Today, the Army has still a long way to go to meet the targets set 9 years ago. So we still have a number of objectives that have not yet been attained, while technological development is making it necessary to start on new programmes to acquire the “third generation” materiel.

There are therefore gaps to be filled, and newly arising needs at one the same time.

Everyone knows the reasons for this: financial difficulties, which have been heightened as a result





of cost increases.

We are still short of our target in air defence, battlefield surveillance, NBC protection and antitank defence.

But there is one thing I would like to emphasize: all the decisions that had to be taken were taken at the right time. Research and development, and the resultant procurement activities were undertaken in time, and on the basis of clearly defined programmes.

Once these programmes have been carried through – within an acceptable timescale, I hope – we will have reached an adequate level of efficiency as far as material is concerned.

Let's talk for a moment about these programmes, that have been grouped together into areas of interest, so that whole sectors can be developed consistently and smoothly.

These are:

— “Basic Weaponry”, comprising light individual weapons, antitank weapons, special equipment (such as night vision and sighting) and NBC protection equipment;

— “Manoeuvre and Mobility”.

Here, the focus has been on completing the modernization of the tank line, procuring wheeled vehicles and improving and upgrading the helicopter stock by bringing into service the A 129, and a family of helicopters derived from it in the future. Other important programmes are the VCC80, a new armoured car and tank completely designed and built in Italy, to serve as the link between those we already have and the 3rd generation tank to be built on a European basis with the complete participation of Italian industry;

— “Fire Support”. Here again, the ongoing ground artillery, anti-aircraft artillery, battlefield surveillance and target acquisition equipment programmes will be completed. As far as anti-aircraft defence against low and very low altitude planes is concerned, a decision has been taken that I personally consider to be very courageous, because of the degree of confidence it shows in Italian industry: the choice of the

SKYGUARD–ASPID system.

The 24 systems scheduled for procurement will enable us to solve the problem of the partial coverage of the “Combat Zone”, but it will leave unsolved the problem of the units operating in the Territory;

— “Communication–Command–Control”. The problem here mainly concerns the development of the CATRIN system (Field Transmission and Information System), but at the same time, the electronic warfare branch is also being stepped up.

— “Supplies and Stocks”. Priority here is being given to the Automated Management of supplies and the reduction of stocks according to criteria of profitability, efficiency and the interest of Italian industry.

These programmes cost more than is likely to be available over the next 15 years.

This is the real, huge problem that we have to tackle.

I hope that the basis can be laid at once to find a rational solution to meeting these requirements. The Ministry of Defence has taken the technical decisions and given all the encouragement that is needed, and so the groundwork has been laid.

Postponing things would probably spoil our chances of making that “quantum leap” that we have so often spoken about, but which has not yet been taken.

One promising sign is that the technical/administrative procedures will shortly begin with a view to producing the new Italian tank and APC, once the industry is able to meet the specifications that the Army has already laid down.

How is the modernization process affecting the organizational structure of the Armed Forces in terms of personnel, facilities and materiel?

An interesting survey published recently said that military experts in the United States are examining the possibility of introducing changes that are going to revolutionize the organization of the forces, with drastic changes in the classical structures of the

complex and elementary large units.

The Corps, the Division and the Brigade in the not too distant future could well be completely different from what they are today.

The present standard make-up should be replaced by an ad hoc composition according to the particular functions the units are called upon to perform, and would vary according to the duties imposed by that faction.

In other words, it is the peacetime idea of the Task Force that is now gaining ground, organized and composed to do a particular job.

Every large unit in future could be organized and structured differently from the others, and instead of being designed to perform an "average" type duty, they will be tailored to meet case-specific needs.

This is an idea that we have to bear in mind, in order to be able to design the kind of developments we want to modernize our Army in good time.

In view of the changes we shall be introducing into our units, and particularly the qualitative improvements, we shall also have to redefine what I call the "human potential spectrum" that has to be introduced into our units.

To borrow an expression that belongs to the industrial world – and I trust that I shall be forgiven for this arbitrary extension to our ambit! – I think that we are moving into an age in which the Army is ceasing to be made up largely of "personnel with low value-added" to become an Army in which "personnel with very high value-added" will constitute the vast majority.

In place of the mass of straightforward assault troops that used to play a very definite role according to a certain type of concept of war, we are now introducing the small "functional team", made up of "multirole specialists" for a different type of combat in which – for example – the emphasis is focussed on antitank weapons, missiles or laser observation devices etc.

In other words, the organi-



zational structures will become increasingly more streamlined and specialized.

How far is the increasingly large-scale use of technology in the weaponry field changing the criteria for personnel use and the overall management of the Armed Forces?

The problems of general force management and the conduct of operations can be solved more easily to the extent that our command and control functions are more adequately performed.

It is the omnipotent, all-pervading presence of electronics that is making the quantum leap possible. Using electronic transmission systems and EDP, we are now

able to obtain all kinds of data in real time, gathered by a variety of sensors, and then link them with systems on the basis of well-defined programs.

This is of enormous help to the decision making process.

The positive effects are therefore obvious; but technology affects many other sectors, too, enormously enhancing the efficacy of actions with weapons of all kinds, acting on precision and timing, automatically coupling observation skills and the capacity to intervene, reducing margins of error and providing the best possible conditions to enable operators to act by weighing up risks and results.

I have already spoken my

mind about the new relationship between specialized and general service personnel in the answer to the previous question, when I went into the question of "value added".

Force use criteria, which are now possible thanks to the increasingly widespread use of advanced technology, can be summed up in terms of a reduction in the "time" and "space" factors. At certain levels, at least, the keystone to the whole system will be the personnel element, which will receive accurate data on the objectives to strike and be in a position, simultaneously, to effect the strike using missiles that automatically lock on to the target.

Despite the undoubted advantage of this, there is also the danger of creating a hiatus between the attackers and the defenders and vice versa, by interposing a man/machine relationship between them, dehumanizing this hiatus, which could have perverse effects, in moral terms as well.

The risk is that the operator might feel that he is playing a kind of game, ready to press or not to press a button, without actively taking part with his heart and his feelings.

A whole new philosophy is opening up, which imposes the need for a continual process of psychological as well as technical readjustment, keeping in step with the introduction of new facilities and enabling us to predict more or less what the future implications are likely to be.

Commanders therefore need to study the situation very carefully as from now, to avoid being taken by surprise in the future, and to be able to forecast reactions and behaviour patterns.

Otherwise there is a risk that men will be used in a detached fashion, almost like guinea pigs, as if they were an integral part of the materiel, like robots, that do not want to participate in or understand what is happening.

Man, therefore, must remain the sole, real protagonist.



scribing shows the major changes that have either been introduced already, or that are now being brought in. What do you see as the main challenges facing the Army in the immediate future?

The main challenge is man.

A new man, a different man, the product of a democratic process that is now very deeply rooted.

A man, in other words, who increasingly wants to be aware of what he is being asked to do, and who wants to participate conscientiously.

Technology meets some of his interests, but at the same time it deprives him of a certain margin of freedom; it enhances his potential, but curbs his creativity; it relieves him of physical involvement, but at the same time it "automates" his behaviour patterns.

Being able to act efficiently thanks to a machine that responds to a mechanical impulse is quite a different matter from wanting to act on the basis of reasoning, and being guided by feeling.

To defend yourself, it is not enough to have technologically advanced facilities; above all, you have to want to defend yourself.

This is the root of the whole question about consensus. Consensus is a security factor along with all the others that conspire to define the credibility of the military instrument.

The second great challenge is technology.

A full-scale revolution is taking place in the military sphere today.

Being electronics-based, and particularly in view of the major contribution of computer technology, this revolution without precedent in history will have a decisive influence on structures, organizations, strategies, doctrines and force use procedures in the near future. As the century draws to its close, it will lead us into a new age of the military art.

As far as strategy and operations are concerned, the classical concepts of mass, concentration of effort and surprise have to be reinterpreted.

What you have been de-



But the challenge – as I have already said – relates to man, his very being and the way he acts, and it therefore has to do with the challenge of man himself.

Once the challenge is concatenated solidly in this manner, we have to study all over again the whole educational and training process, including the spiritual training and the hierarchical relationships themselves.

The third and last challenge is society.

I am not referring to society as it is developing, and the newly emerging values of that society, but to society as the depositary of interests, of which the essential ones are freedom, independence, democracy and peace.

These are the interests which shed light on the "security function".

A number of questions arise spontaneously in this connection: What will the soldier of the future be like? How can we define his training needs, since he will never meet the enemy face to face – as I have just said – but will simply be required to press buttons,

wanting to know and to participate while being bound up with the crazy mechanism of a technology which sees all, processes all and manages all, and which has the institutional duty of guaranteeing security which is being increasingly subjected to the constraints of so many component factors, apart from the specific military component?

There is no easy answer to these questions.

We have to proceed with wisdom, remembering that developments are taking place so rapidly that even choices that appear to be appropriate at the moment can easily be outdated within a decade.

The best way is to proceed with "modular innovation", to avoid creating irreversible situations.

The "scientific module" of the Fifties and Sixties has stood its ground until today, but we have had to temper it, by complementing it with the "humanistic module" – in other words, by inserting legal, social and psychological disciplines into it. But now the combination of these two

modules is inadequate, without the aid of the "EDP module". And the process is by no means finished.

In the background, there still lurks the disturbing and harrowing problem of nuclear weapons, with all their political/military, strategic, operational and moral implications.

These latter implications are the ones which deserve consideration and respect above all others.

Which brings us to the last great challenge: the moral challenge.

I think that there is no need for me to explain what this means in military terms.

It is a challenge that involves all the others and demands our active participation to find an adequate response to the security issue; security is the whole *raison d'être* of our institution.

In a world that is shrinking all the time, it is no longer exclusively a military question, but the product of many factors. And we soldiers have to increasingly fit our duties into a different context in which all the other components (of which I have already spoken) have a no less important role than ours.

Security means harmonizing a wide range of interventions that entail all these components.

Basically speaking, we look favourably on what I have, on many occasions in the past, defined as the "laicization process" of the problems of defence.

This is the most genuine meaning of democratic participation.

INTERVIEW WITH GENERAL UMBERTO CAPPUZZO ON THE STATE OF THE ARMY

THE UNITED STATES AND RUSSIA IN THE LAST CENTURY



THE UNITED STATES

We begin our historical survey starting from 1878, i.e. two years after the centennial of the US Declaration of Independence, which was celebrated in Philadelphia with an international exhibition, where foreigners and Americans alike could admire the

progress made by the country.

And surely the United States, in one hundred years of history, had advanced with gigantic steps. Born as the country of pioneers and small-town farmers, it had become a major political and economic organism. It had reached both oceans, it had eliminated the French influence along the Mississippi, the Spanish in-

fluence along the Gulf of Mexico and in California; it had overcome nature's obstacles, and created an agricultural South and an industrial and capitalist East, which, with the thickening of the ways of communication (canals, roads, railways) poured its products into the West, which was then the land of adventure, the "frontier" country, as its contemporaries called it.



1863, Battle of Gettysburg. This battle, in which the Confederates led by General Lee were badly defeated, was a turning point in the War of Secession, and marked the birth of the modern United States.



May 1895.

A contingent of the United States Army lands at Guantanamo, on Cuba's southern coast. The conquest of the last remnants of the Spanish Empire in the Caribbean and in the Philippines determined the final establishment of the United States as a great world power.

Nevertheless the US was entering a new phase: in 1890, the official report about the census announced that "the entire colonization area had been occupied". The frontier had ceased to exist! The US historians agree on the great importance of the end of the frontier. The adventure was over.

Now it was no more a question of conquering and exploiting a continent, it was a matter of consolidating and governing a large population with different interests, tackling the economic and social problems created by the advent of the machine, facing the conflict between capital and labour, a conflict exacerbated by the huge growth of the population, and the immigration, from eastern and southern Europe, of great masses of men: a cheap labour force, less demanding than the American

workers.

From this derived the need for a world market and, as a consequence, a world policy.

The action in Cuba in 1895 was the first step. The island gained its freedom, but under the political and economic control of the US, which, against payment of a compensation to Spain, obtained possession of Puerto Rico and the Philippines. A Philippine armed insurrection was repressed a little later.

Sometimes the US acted with at least a partial disregard for the principles of its Constitution, which attributed "full validity to a government only when it was freely accepted by the governed": but the status of world power – now within reach – demanded a little "forcing".

The year after the peace of Paris (1898), the US intervened

in the Chinese question, together with Great Britain, in order to impose the "open door" principle in China, against a more or less concealed partition of that great empire.

In 1899 it took an active part in the creation of the International Court of The Hague, already supporting the principle of arbitration in the international questions.

A few years later the US supported Venezuela in an economic controversy against some European countries; this rôle of champion earned the US a great ascendancy in Central and South America. But the liking diminished some time later, as a consequence of the policy concerning Columbia in the Panama question.

The lease of this strip of land and the subsequent construction of the Canal are events of world importance and a credit to the US. But the rash method followed to obtain the concession partially obscured this merit.

After the creation of new outlets, the intensification of communications, and after replacing the irrational exploitation of natural resources with a conservation policy, a feeling of optimism seemed to spread in the air.

President Wilson, in his address to the people, following his election in 1912, reminded America of its mission of liberty and justice. Two years later, the outbreak of WWI would set the US on a new course.

The first years were marked by neutrality. Public opinion was against war: the Monroe Doctrine had affirmed that Europe would be left alone if it did not disturb America.

The war was having great repercussions in the economic field.



The orders from Europe followed one another, in an endless increase. Then the violations against neutrality started: Germany commenced a submarine war against commerce; the "Lusitania" was sunk. The attempt to find an accord, accepted at first, was rejected, and this meant war.

The bill for compulsory military service was approved and the country's entire industrial structure was geared to serve the war goals. It was an enormous effort, but the US entry, with new and large resources and in a—by then—stabilized war, brought about the victory of the nations allied with the US.

The country's wealth was increased by the war. After all debts were paid, the US credits in Europe amounted to enormous sums. When the peace confer-

*July 1918.
U.S. counterattack at Saint Pierre Aigle. In the last year of WWI the United States, with 1 million troops sent to the frontline, contributed decisively to the defeat of the Central Empires.*

ence was convened in Paris, the US was at the apex of its power. But Wilson had an inadequate notion of the complexity of the age-old European political structure.

He hoped to conclude a peace that could remedy the old abuses and give mankind an organization capable of starting an area of universal cooperation. Unwittingly he provoked the opposite effects, by rekindling, with his doctrine of self-determination, the fire of nationalism.

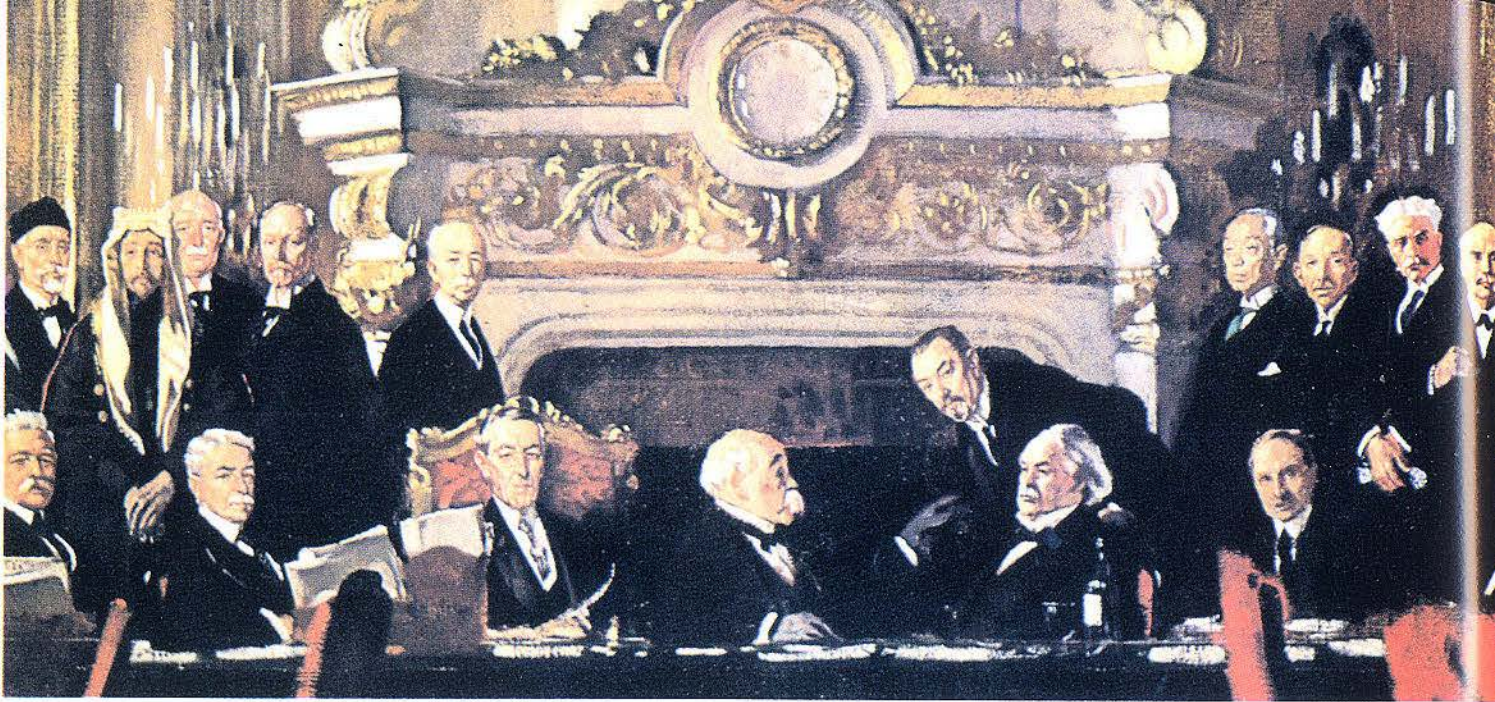
His 14 points were rejected. The US did not join the League

of Nations, because the American Senate refused to ratify the treaties.

The US had enough of Europe: but its isolationism could only be a relative one. Too many problems were involving the US in the Old Continent's vicissitudes: the reactivation of international trade, the currencies' stabilization, the settlement of reparations and debts among the Allies.

The crisis that was to shake the postwar world economy had its first major manifestation in 1929, with the collapse of the New York Exchange.

In 1933, Franklin Delano Roosevelt was elected President for the first time. Faithful to the principles of his country's isolationist neutralism, he considered with displeasure both the weakening of the democratic Powers



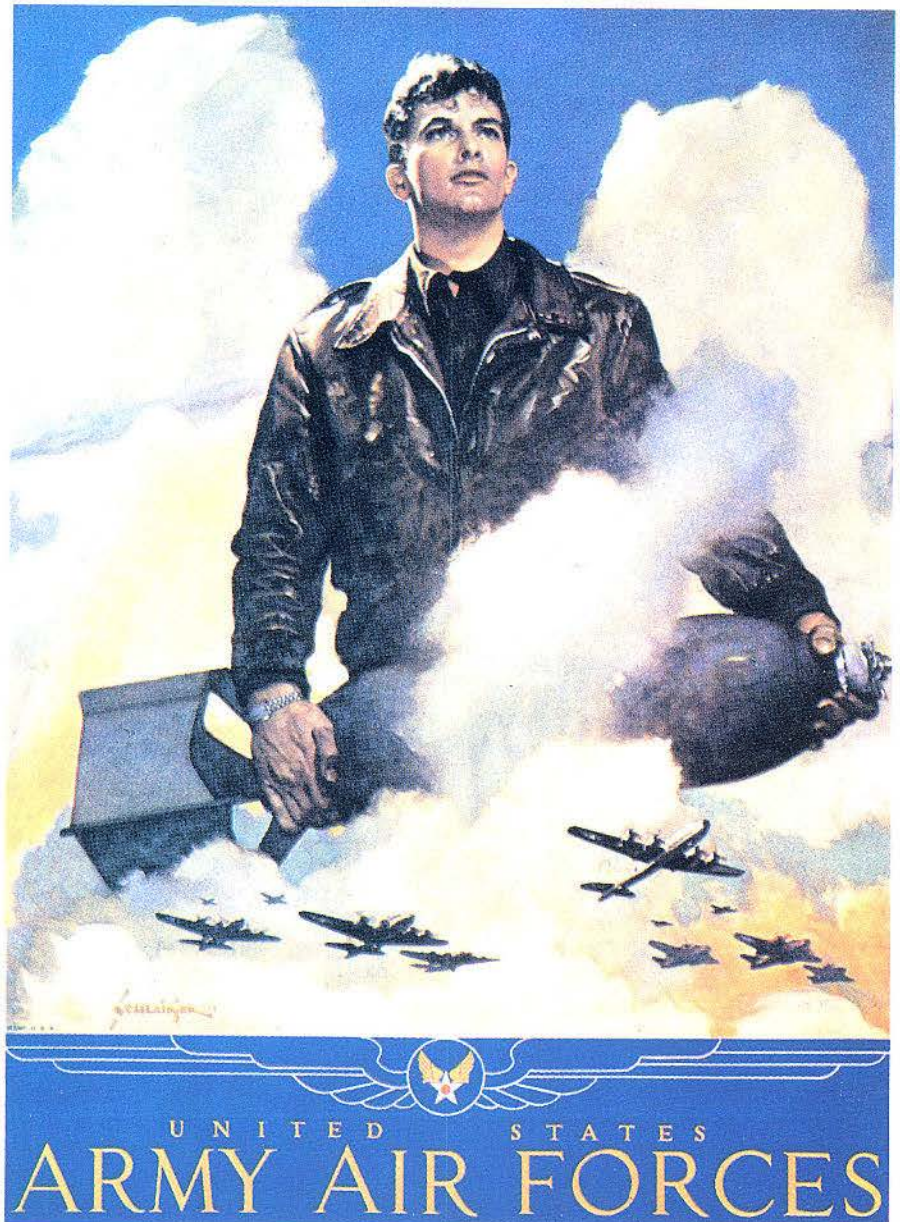
on the international plane and the Japanese expansion in the East.

At the outbreak of WWII, convinced of the close connection between Britain's fate and the freedom of the world, Roosevelt tried to help Great Britain by sending war materials. He advocated the nation's rearmament, obtained the introduction of compulsory military service and – with the "Lend — Lease Act" – allowed the government to help the Allies with war supplies.

The Pearl Harbour events led to the conflict, with the intervention of the United States, once again decisive, mostly because of the employment of a gigantic industrial potential, pushed to its maximum output. The declaration of the United Nations, signatories of the Atlantic Charter, on January 1, 1942 set the foundations of the policy in defence of freedom and democracy – which the US continued to follow after the war.

The conflict's positive outcome had put the US in a condition of moral supremacy vis-à-vis the other Allies, which acknowledged its fundamental contribution to the final success and respected its military superiority due to the possession of both the nuclear weapon and the vehicles to deliver it.

The unbalance of the global power between the US, the friendly nations and the adversary was due, moreover, to the enormous



US economic resources and to a different civil and social condition of the American people at the end of the war.

In fact, the loss of human lives suffered by the US was, in proportion, not as high as that suffered by the other countries involved in the conflict, with less heavy psychological repercussions on the people. On the other hand, the demographic expansion had amply filled the numerical voids, although the mourning and suffering could not be cancelled easily.

The postwar recovery was also helped by the fact that the conflict had not even grazed the US territory, which had remained undamaged and therefore in a position to express entirely its willingness to promote its development with renewed and intact energies.

It can thus be explained the exceptional evolution of the American postwar economic expansionism, which found a fertile ground in the necessities of the other countries, which had become huge inlets, absorbing industrial products and food resources.

These privileged conditions in the relations with the exterior had helped a global internal growth with a consequent increase in salaries and improvement of living standards.

Nevertheless, this expansionist policy did not have only economic motivations, for it aimed at stabilizing and consolidating the initial postwar supremacy of the United States, making it the hinge of an organic and permanent "system" in international relations.

It was actually a goal, a flexi-

Facing page, from top.

January 18, 1919. Paris, Salle de l'Horloge at the Quai d'Orsay. The opening of the Peace Conference. The attitude of President Wilson, who proposed his famous 14 points, was crucial for the new European political order.

Second World War.

A poster for the recruitment of volunteers for the U.S. Army Air Force. The United States, which had to tackle serious economic problems in the '20s and '30s, entered in practice the war only in 1942, after the Japanese attack on Pearl Harbour.

Below.

December 1944.

U.S. reconquest of the Philippines. During WWII the U.S. – besides helping the Soviet Union and Great Britain with the supply of materials – fought in North Africa, Italy, the Western front and the Pacific.



ble orientation, having no rigid schemes or hidden intentions, capable of adapting to the contingencies, in the light of a pragmatism concretely applied, both on the political plane and in the social context.

Harry Truman expressed it in his domestic "Fair Deal", and in the famous "Four Points" in international policy, with which he set the foundations of a method that up to now has not been disproved.

The "Truman Doctrine" was indeed the codification of the principle of international assistance, envisaged in forms that were poles apart from the Communist conception.

The "philosophy" of aid given not only to the countries threatened from the outside, but also to those imperiled by social disorder, was the fulcrum of the US international policy. This "philosophy" is valid to this day, with some expected transformations and with the appropriate adjustments suggested by the evolution of the times.

The "Marshall Plan" concretely carried out the provisions of this declaration of intents, bringing a sensible relief to the traumatized economies of the Western nations.



Facing page, from top.
August 9, 1945.

The nuclear explosion at Nagasaki. The conflict with Japan ended after the use of the two nuclear bombs on Hiroshima and Nagasaki. The event marked the beginning of the nuclear era.

November 1950, Korean War.
Armoured forces near the Chinese border.

In the cold war era, the invasion of Korea was a destabilizing factor involving, on one side, the U.S. and its allies, and on the other the People's Republic of China.

Below.

Vietnam War.

Evacuation of a wounded soldier. The U.S. had been involved in the war in Indochina since 1954, when, after the French withdrawal, it assumed the rôle of adviser to the South Vietnamese armed forces.



In compliance with President Eisenhower's will, the aid policy was stepped up considerably. The Soviet Union reacted by cooling its relationship with the United States, accused of having the intention to penetrate the economic-political ganglions of the "friendly countries".

The American proposal of nuclear disarmament, at the Geneva Conference (1955), did not find therefore a favourable atmosphere; on the contrary, it deepened the split between the two super-powers, which started a relentless race for the conquest of space, as an expression of scientific, industrial and technological supremacy.

The election of President John F. Kennedy, a catholic Democrat, opened the way to

forms of détente and tolerance in the relations with the Soviet Union. After the President's tragic death — he was murdered in Dallas on November 22, 1963 — his successor, Lyndon Johnson, continued to follow his political line, succeeded in smoothing away some internal attritions (for instance, the never settled racial tensions), and attempted very actively to soothe the external contrasts.

But the outbreak of hostilities in Vietnam and the "necessity" of the American intervention thwarted all intentions — however sincere — to help make the international relations more serene.

The Vietnamese adventure was a shock for the United States: the internal contrasts among factions became sharper, so much so that the new President, Richard Nixon — elected 1968 — felt the need to proclaim his aspiration to bring the American people together again. In accordance with this essential goal, he implemented a number of political actions intended to improve the relations with the Soviet Union, planning — among other things — a progressive reduction of the American presence in Vietnam.

The US international image came out improved and its prestige increased enormously when the astronauts of Apollo 11 conquered the moon. The apex of this peaceful "escalation" was reached in 1972, when Richard Nixon went to China and to the Soviet Union itself.

But these events do not belong to history, because they are part of the chronicle, a report of the life we have lived. We have taken part in it — more or less directly — owing to the impossibility to isolate the internal events of each nation from the entanglement of the closer and closer international connections, which have been consolidating in the last decade. Thus, we witnessed gradual and reciprocal overtures between the United States and the Chinese world, although, as regards foreign policy, they both remained on their respective positions, very difficult to reconcile, in the light to principles that nei-

ther side, for dogmatic or historical reasons, could renounce.

The seed sown by Nixon proposes, even after the "traumatic" downfall of the President, a new line of action by the United States, both in its relations with the friendly countries and in the up—and—down tensions with the Soviet Union.

The American public opinion ceases to consider the Chinese planet as an impregnable stronghold of Communism, a stronghold even more impenetrable — on the dogmatic plane — than Russia itself.

A thin fissure is gradually opened, covertly at first, and then more and more openly, in the relations between the two Communist universes, also due to the new trend of the US foreign policy.

This policy is mainly hinged on commercial penetration, made possible by the particularly good conditions offered to the Chinese world, troubled by problems of incalculable dimensions and constrained by its efforts to overcome the technological and industrial gap, vis-à-vis the more advanced Eastern and Western nations.

The US economic escalation is simultaneously a goal and a medium, but, above all, is an assertion of power that commands

respect and indirectly encourages the tacit dissent with the Soviet Union of countries originally close to it.

The image of the US is strengthened by the possession of a large missile arsenal, characterized by its partition in quotas deployed in the Allied nations, and therefore more awesome.

The attempt to keep the necessary nuclear balance unchanged is an aspect of the search for increasingly effective forms of détente.

Ford's and Carter's policies are deeply permeated by this, although with sensible differences in method and general lines.

The Third World problem becomes meanwhile more and more pressing. Its reality cannot

be considered a secondary presence in the multifaceted system of delicate international equilibriums.

The United States, faithful to the "Truman Doctrine" — updated and made more elastic in order to adapt it to the new situation — prepares a massive plan of interventions, in the "traditional" forms or through favourable commercial, social or economic ties.

Above.
Vietnam War.
"Tarbe" CH-54 Sikorsky Helicopter
hauling a truck.

Below.
Vietnam War.
A U.S. monitor on a South Vietnamese
waterway.



The main goal is to create a large bloc of pro-West emerging countries, in order to contrast Soviet penetration, especially in Africa.

The US favours the growth of autonomous democratic systems, in contrast with the Soviet concept of creating the conditions for increasing the number of Moscow's "satellites".

As a consequence, the US widens the range of its policy as a democratic bulwark against forms of open or disguised subjugation, not admissible by the principles of a free society. Principles deep-rooted in the American people since the beginning of their history.

The United States finds it more difficult to achieve, every time and according to circumstances, the desired international balance owing to the widening of its interests and the increase of the "critical points" in the world scene.

From the generic initial post-war tension with the Soviet Union to the Cuba problem, from the Vietnam intervention to the opening of the Israeli-Egyptian crisis, from the destabilization of the Middle East balance to the Afghan "case", from the complex Lebanese problems to the explosive intertwining of contrasts among the African countries, the "escalation" of the American engagement has assumed ever increasing dimensions, which do not allow the US to avoid a direct involvement. The result is a unitary but multidirectional policy, which must be adapted to the various contingencies and occasions, difficult to carry out owing to the disturbances that could rise at local level and endanger the entire context of tenuous and precarious relations with the Communist world.

This new aspect of the American position requires a different attitude of the US towards its Allies on the plane of the common defensive strategy: a request for a greater contribution of forces and an increased responsibility of each nation, resulting in a shrinking of Washington's protective umbrella.

The stationing of sophisticated missile systems in some European countries is part of this picture and intends both to keep at a constant reasonable level the imbalance of forces vis-à-vis the Soviet Union's (parity being realistically illusory, given the impossibility to know the real size of Moscow's arsenals) and to give the countries concerned a potential deterrent enabling them to take on the desired larger tasks, within the indispensable limits to decisional autonomy as regards the employment of nuclear warheads.

Meanwhile the United States continues the space competition with the Soviet Union obtaining a significant success – for its possible strategic employment – with the construction of the "Shuttle", a spaceship that can land like an airplane and be employed several times. By this "exploit" the United States undoubtedly scores a point, which also translates into technological and industrial prestige.

It is not by chance that, since the space shuttle's first launch, the American economic policy has achieved a number of significant results, expressed by the constant rise of the dollar in the world market. The effects of this favourable phase of the American currency are quite noticeable in the general

Vietnam War.
An "Iroquois" helicopter and a surveillance-boat type PBR patrolling the Mekong delta.

trends of the American policy in terms of the other currencies' dependence, deeper penetration in the internal markets of the various nations, growth of the American economic-industrial presence in the Third World, and influence on other currencies.

The possible heavy effects of this expansion are mitigated by the truly democratic system in which they take place, for they are the result of openly and fairly competing economic autonomies, which are possible only in a regime of real moral and civil freedom.

RUSSIA

The year 1878 started with a diplomatic failure for Russia. Having won the war against Turkey on the battlefield, it saw the St. Stephen Treaty annulled by the Congress of Berlin, where the English policy, traditionally anti-Russian in Europe and Asia, succeeded in isolating Russia and undermining its prestige in the Balkans. The cession of Bosnia and



Herzegovina to Austria further worsened its relations with the latter.

A few years later (1881) the tragic death of Alexander II – the reformer monarch who had abolished serfdom and was preparing to give Russia its constitution – led to the succession of the conservative and reactionary Czar Alexander III.

The new Czar's wish to confront the liberal and subversive movements resulted in a reconciliation with the Hapsburgs and Hohenzollerns, who were also anxious to keep the existing politico-social order.

But the Russian Pan-Slavism could not get along well with Aus-

tria's imperialism in the Balkans, and the two empires confronted each other again in the Bulgarian question.

Thanks to Germany's intervention there was no war, but Russia's foreign policy changed its course and became aligned with France's. In the following decade (1895–1905) Russia's policy gravitated towards the Far East. There it took advantage of China's confusion after the defeat suffered from Japan. The layout of the Trans-Siberian Railroad was changed, in order to reach Manchuria, and the establishment of a Russian-Chinese bank was the first step towards economic expansion. China tolerated: but

Russia's real target was the Japanese imperialism, whose interests in Manchuria and Korea clashed with its own.

An agreement for the delimitation of the zones of influence in these sectors was discussed several times, but never reached. The war that followed, with its unexpected outcome, was a surprise to the entire world and a heavy blow to Russia's imperialism, defeated on land and sea.

Part of Sakhalin, Port Arthur and Manchuria were lost. There were deep repercussions on Russia's foreign policy. Disappointed in its aims in the Far East, it turned again to Europe and,



September 11, 1877.
Russo-Turkish War, Battle of Plevna.
On April 24, 1877, Russia declared war on the Ottoman Empire. The pretext was the liberation of the Balkan peoples; the real reasons was Constantinople. Russia won on the battlefields, but was defeated by diplomacy.

thanks to french support, succeeded in a rapprochement to England. Nevertheless, other serious problems undermined czarist Russia from the inside. The peasants, despite the abolition of serfdom, had not achieved full emancipation and were still subject to the numerous bonds of rural communities, which they endured very much against their will.

The workers, whose number has greatly increased following the country's rapid industrialization, lived in wretched conditions and their salaries were insufficient.

The discontent was kindled by the "Intelligentsia", a movement of intellectuals, which had

its roots in the proletariat and was supported by the large Jewish component, disliked by the aristocratic and traditionalist classes. Peasants and workers, led by intellectuals and Jews formed therefore a very dangerous front against the government.

Nicholas II – the new Czar – was unfit to confront such a serious situation. Though he was not the inept and bloodthirsty brute that the Bolshevik press made him to be, he was not the open-minded man that the times required. Weakened internally by party fights and politically by the yearnings for autonomy of alien groups (the Ukrainians were particularly dangerous), Russia

entered the first world war, consistently with its Slavophile and anti-Hapsburg policy, but in a moment when it needed a pause for solving its numerous internal problems. After a period of harmony and optimism, the early victories were paid with heavy defeats, part of the Empire's territory was invaded by the enemy, the troops were demoralized by rumours of treason in the high circles and in the Court itself, and the abyss between the Czar and his nation became even deeper.

With the Czar's abdication and Grand Duke Michael's renunciation, the three-century old Romanov dynasty ended.

Thus the Russian Republic





began its life but the power was disputed by a provisional government and by the Soviets of Saint Petersburg. The provisional government's weakness opened the way to the Soviets, which took power with the revolutionary coup of October 1917.

The Soviets' first act after taking power was the end of the war, which they obtained on hard conditions: but the Soviet leaders wanted to save the revolution. Nevertheless they were engaged in a hard fight for about two more years. The former allied armies, having vainly attempted to rebuild an Eastern front, supported with a series of badly concerted actions the efforts of the White anti-Bolshevik armies, which were also badly organized and lack-

ing especially in the logistic services. Once the White armies were defeated, the Soviets had no further obstacles.

The occupying foreign troops were withdrawn. With the independence of the Baltic states and Poland, the Western Allies created a "sanitary cordon" between Russia and the rest of Europe.

A Russian attack against Poland, defeated by the Polish heroism, was followed by the Peace of Riga (March 18, 1921).

The new government immediately nationalized banks, country estates and industries. With the Constitution of 1922, a formal federal organization was created with the Union of Soviet Socialist Republics. In reality the power remained in the hands of Russia

Russo-Japanese War, Liao-tung Campaign.

Russian calvary attacking a Japanese camp. In 1904, the Russian infiltrations into Manchuria and Korea prompted the Japanese government to react. The Russian defeat caused tragic revolts inside the country.

proper, and particularly of the Communist Party. Admittedly, Lenin supported the theory of "dictatorship of the proletariat", but in fact, he had only given Russia a new autocracy, in full keeping with the teaching and traditions of the entire Russian history.

Another of Lenin's dreams was a world revolution, the first step of which was the Russian revolt; on this, he and Trotsky the internationalist had a perfect identity of views.

The year 1924 is important in Russian history. The European nations, one by one officially recognize the new government; within the country, Lenin's death gives rise to a fight between Trotsky and Stalin, ending with the victory of the latter. Trotsky, who had been the tribune of the revolution and the hero of the Red armies, is sent into exile (he will be murdered in Mexico in 1940).

Stalin was a figure quite different from Lenin. A pragmatist, more given to action than thought, he replaced the internationalist idea with that of "Socialism only in one country", going back to the nationalist and imperialist trends. With a series of trials – and without scruples – has proceeded to eliminate the other Socialist currents and the enemies of his dictatorship, and devoted himself to the industrialization of the Soviet Union through the five-year plans, and to the organization of socialized agriculture, allowing just a minimum of individual land property. In 1936 he made changes in the government structure, giving a new constitution.

Meanwhile the Soviet Union was also regaining its place in world foreign policy, still in keeping with its nationalist and imperialist traditions.

The threat of Hitler's expansionism reapproached the Soviet Union to the Western democracies. In 1934 it joined the League of Nations, but new opportunistic considerations pushed it again towards Germany, just as Franco-Anglo-Soviet negotiations for an anti-German pact were in progress. With German help, the Soviet Union was able to recover the Baltic countries and to occupy part of Poland. Having obtained the coveted advantages, the Soviet Union then did its best to cut down the German power, fighting, from 1941, side by side with the Western democracies.

The Allies' success in the second world conflict conferred more weight to the Soviet policy within the framework of the victorious countries' relations and, as a consequence, in the world context.

Already in 1944, meeting

Churchill in Moscow, Stalin could claim, together with the English leader, the right to programme the division of Europe in two zones of influence: an Anglo-American zone and a Soviet one. The plan was actually carried out the following year at the Conferences of Yalta and Potsdam.

Furthermore, the progressive expansion of Communism in the Western countries had increased the Soviet prestige to the point that, within the U.N., the Russian policy acquired a preminent rôle, equal to that of the major Western powers.

Inevitable contrasts resulted from this, giving often rise to harsh disputes, which Moscow used to keep the tension high and to insinuate in the mind of its adversaries the picture of a disastrous break-off and of an open conflict.

Thus the Soviet Union started its "cold war", with a consummate technique, which expressed itself in the ability to take advantage of every opportunity, turning to its own advantage the counterparts' apparent yieldings, which were due to a sense of responsibility, to caution and to a longing for peace.

The Cominform was therefore created, in opposition to the Marshall Plan. The Yugoslavian regime was condemned, under the

accusation of nationalist deviationism, with the intention of giving a further signal of inflexibility to the West, towards which Tito had made some modest openings. The breaking point was reached, perhaps against the will of the Soviet Union itself, with the open confrontation in the context of the "Korean question".

Stalin's death, in 1953, marked the transition to a policy more favourable to détente, pursued by the new leader, Malenkov, whose guidelines, both on the international and on the internal plane, were followed also by his successor, Bulganin.

The Soviet Union was progressively proceeding towards a clear condemnation of Stalinism, silent at first, then creeping, and finally openly expressed at the 20th Party Congress (February 1956) by First Secretary Nikita Khrushchev.

Khrushchev, who was later made Head of the Government, widened the Soviet opening to a dialogue with the Western bloc, also as a result of the increased

Moscow 1918.

A Bolshevik demonstration. The collapse of Czarist Russia in 1917, and the subsequent disengagement from the World Conflict, caused a long period of civil war. At the end, the Bolshevik forces prevailed.



Soviet prestige, due to the launch of the first two "Sputniks" and to Yuri Gagarin's space accomplishment.

On the contrary, the relations with China changed for the worse, due to the Soviet Union's clear unwillingness to cooperate in the nuclear field.

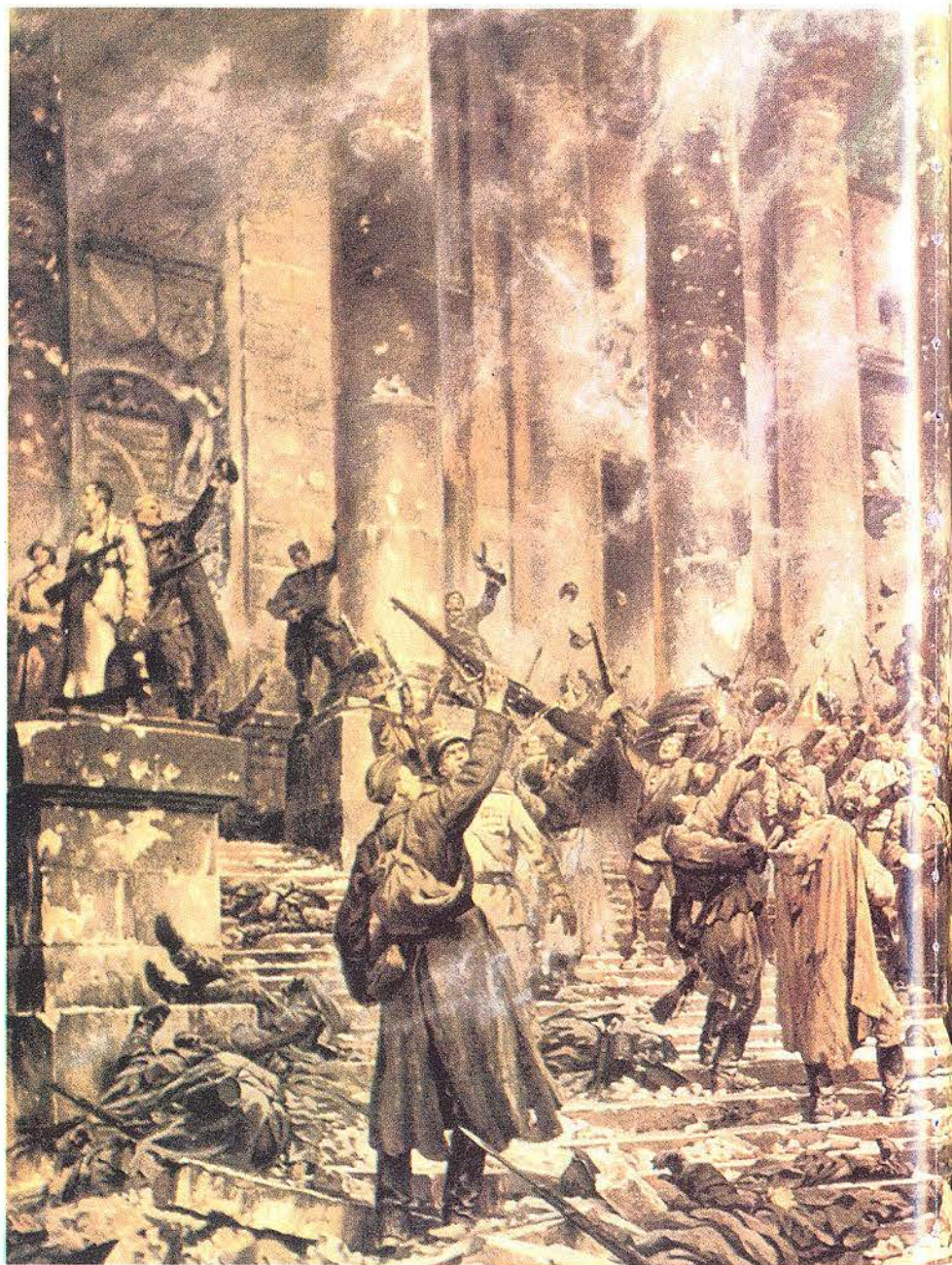
The American blockade against Cuba, in October 1962, started again a very serious crisis; its reflections were in part extenuated only the following year, when the Soviet Union, the United States and Great Britain signed in Moscow a treaty for the interdiction of nuclear explosions in the atmosphere.

Khrushchev's sudden resignation in 1964 and the election of Kosygin as Prime Minister did not substantially alter the Soviet policy, by then stabilized on post-Stalin criteria, which had been consolidating with time and had given quite satisfactory results, allowing the Soviet Union to acquire international and less prejudiced consideration from its interlocutors. This image, laboriously built with declarations and acts of goodwill, was obscured by tragic events, such as the interventions in Hungary and Czechoslovakia, which destroyed at a blow the credibility of "Communism with a human face".

Russia was suddenly back to a form of strict dogmatism, smacking of neo-Stalinism, which did not permit free national interpretations of the communist canons in the countries of the Warsaw Pact, and obliged them to follow the Soviet model.

The reaction of the Western bloc and of the greatest part of world public opinion was an immediate and severe condemnation of the Russian military intervention.

The adoption of this position gave also rise to a vast intellectual movement regarding the interpretation of the Marxist canons. This movement led — owing also to contrasting practical interests — to heated polemics with Maoist China, which had declared itself the true guardian of Communist orthodoxy.



Since then, the split with the People's Republic of China has never healed so that, after the seventies, it is improper to speak of a "Marxist bloc", when meaning the Soviet Union and China together.

The chronicle of the last decade has recorded a continuous alternation of deep tensions and periods of détente, sometimes real but instrumental, more often only apparent.

The fact is that we have witnessed a progressive increase of the Soviet military expenses, which have resulted in arm sup-

plies to the satellite countries and in the stationing of missile bases in the areas of greater strategic importance.

The numerous meetings between Soviets and Americans on the limitation and reduction of arsenals have clearly shown the Soviet intention to use its nuclear power as a pressure tool to induce the interlocutor to yield, more in the political field than in the military one.

Brezhnev's contradictory attitude was an evident proof of this. He, inspired by a political opportunism chosen as a method



May 2, 1945.
Red Army troops celebrate the fall of Berlin. The collapse of Nazi Germany and its division into occupation zones mark the beginning of Stalin's expansionist policy and the confrontation between the two blocs.

of behaviour and confrontation, took sometimes positions that were disconcerting for the way in which he denied with facts what he had repeatedly declared in words.

On the other hand, this form of apparent inconsistency has been an aspect of the Soviet political "game" after the seventies, for, in this way, the strings of dialogue can be kept in permanent tension and the opposite side is not allowed to make any logical forecast.

This feature of the Soviet international policy is neverthe-

less more apparent in its relations with the US rather than with China, whose "threat" has a "sui generis" character, China being a Communist country.

As a matter of fact, Chinese Marxism, after the transformation of the Maoist dictates, has been – and is today more than ever – an irritating thorn for the Soviet world.

Starting in 1969, when actual military border clashes occurred along the Ussuri river, Russia has been constantly worried about a possible deterioration of the situation.

The exchange of visits of the various "Premiers" and the trade agreements stipulated by Kosygin have been of no avail.

In the last fifteen years, all Soviet efforts have therefore been in two precise directions: one aimed at contrasting the US economic and political expansionism, the other trying to find ways for controlling the effects of the Chinese "growth" in all senses.

This is the true dimension in which the Soviet Union moves today, outside the propagandistic ideological disputes, marked by instrumental incidents and opportunities which are not dropped without adopting positions aimed at concealing the true underlying motivations.

THE UNITED STATES AND THE SOVIET UNION TODAY

The precarious balance and the essential differences existing between the United States and the Soviet Union can be better seen in the light of the present orientation of principles and methods of the two countries.

The US is increasing its international "presence" also through the dollar's power, which very often has proven uncontrollable, as well as through the increasing development of the emerging technologies, at times reaching science fiction levels.

The massive American penetration inside the vital ganglions of the friendly countries' industry and trade further cements, also from the political point of view, the already close bonds of the Western world.

The Soviet Union opposes to this factor the build-up of arsenals in the Satellite countries and a series of trade agreements within the bloc, often in openly coercive terms. The "canon" of mutual technological cooperation is included in this web of economic relations with the Warsaw Pact countries, in order to recover the ground lost in this specific sector, vis-à-vis the United States.

The competition in this field, besides its beneficial influence at the scientific level, because it realizes the Hegelian principle of synthesis as an achievement of mankind, it produces a series of incisive political reflections, which are summed up in the need for an ever increasing acquisition of "spaces".

The consequence is a permanent expansionist tension of the two superpowers, realized with different systems but clearly projected towards technological and commercial achievements, besides the strictly political goals.

In this community of interests, the Soviet and American aims are very often focused on the same targets, sometimes enticing also for their strategic importance and for their function as factors promoting the increase of their international "weight".

The "conquest" of the emerging countries is the revealing expression of it, in addition to the huge Middle East problems which are of the utmost importance, owing to the multiform interests that gravitate towards the zone. The "Chinese question", with its still undefined aspects, which have nevertheless already had their incisive effects on Soviet and American policymaking, enters also in this picture.

On one side the attritions with this vexing neighbour are increasingly worrisome for the Kremlin, which is trying to ease the inevitable tensions through a number of cautious diplomatic actions and commercial treaties at moderately favourable conditions.

On the other side, the United State is improving its progressive approaching manoeuvre towards the Chinese macrocosm, the ap-



proach that Nixon had started, helped also by the very good relations that some friendly countries have been capable to establish with the Peking government.

But, besides the abovementioned "battlegrounds", there is an abysmal difference between the two superpowers in the method of considering the political confrontation.

A "general theory" can even be derived from it, and we can sum up its main lines.

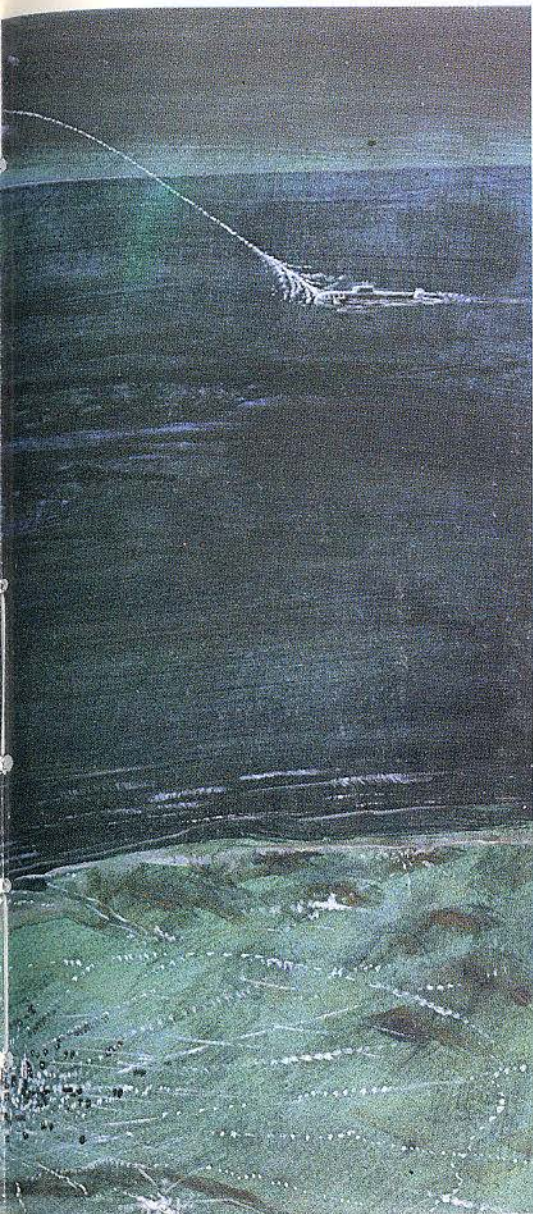
The Soviet Union is conducting a form of "vindication" penetration, which does not omit means and occasions to make its systematic protest appear as an

answer to alleged offences to its rights.

This attitude translates into a technique of hinted threat, never openly declared, but constantly appearing on the surface.

With such an expedient, carried out also with unquestioned diplomatic skill, the desired tension is constantly kept alive, hoping for weaknesses and consequent, cleverly disguised, "impositions", especially in the economic and commercial fields.

The United States, on the contrary, adopts a system that introduces its political and technological "produce" in the friendly countries, through persuasive "dialogue" and free propos-



Above.

Submarine-launched SS-NX-21 cruise missile, with nuclear warhead. Since Khrushchev time, the Soviet leaders have strongly supported the development of a missile component with intercontinental capability.

Above right.

Launch of the U.S. "Space Shuttle". This vehicle can convey any kind of load to space, and return to Earth by its own means.



als, though employing, as the only form of pressure, the power of the dollar and the related ability to penetrate the industrial and commercial mechanism of the individual nations.

It is an expression of democracy, in the widest meaning of the world, matched by transparency of political and decisional behaviour.

On this ground the two Powers certainly find reasons for fundamental differences over the conceptual structure of the ethics of government.

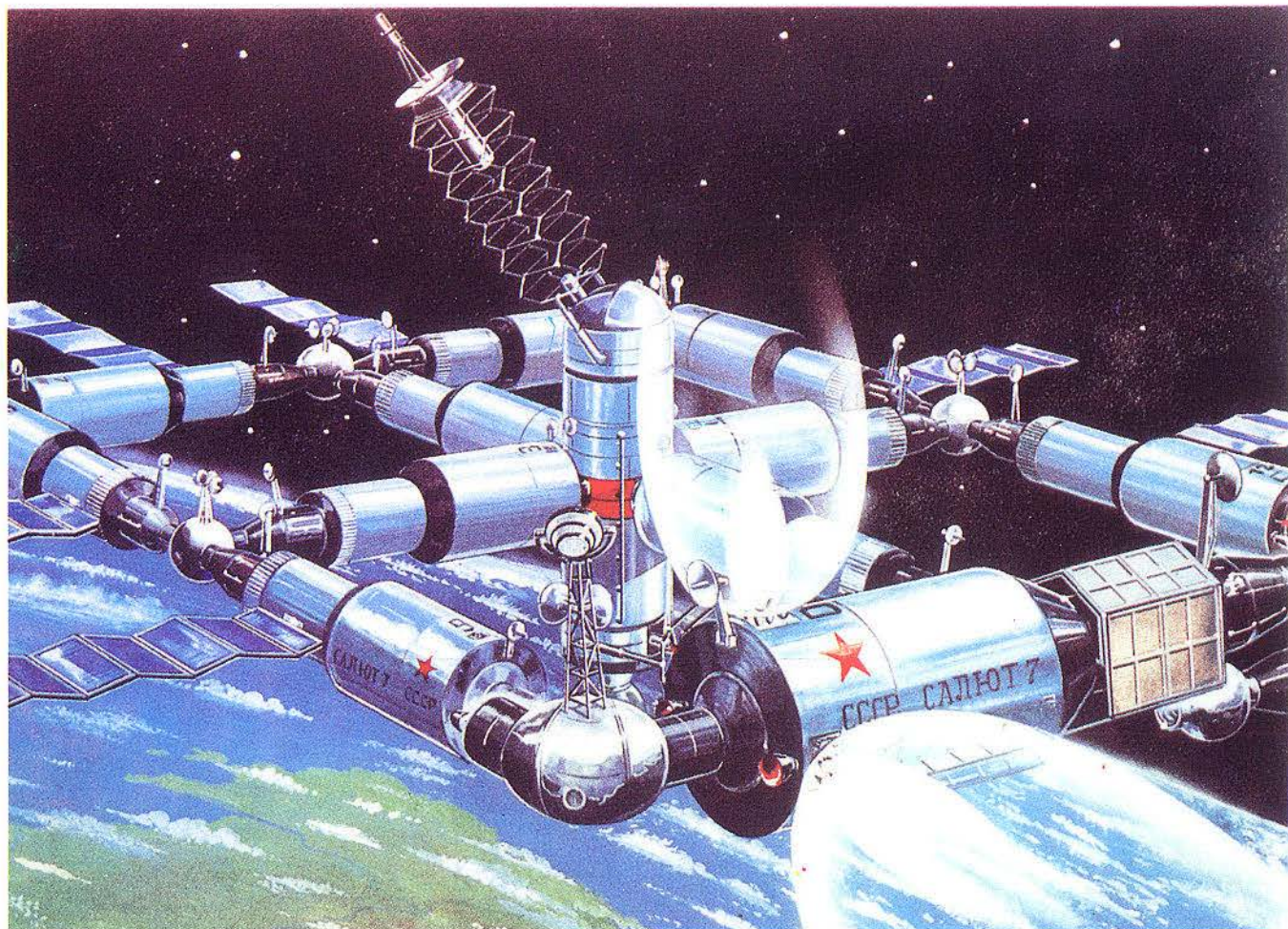
The United States bases its credibility and its persuasive power on open information, without mental reservations, as an ele-

ment of clearness and honesty before the American citizens as well as before the allied countries.

The guidelines of the American policy are clearly expressed and have systematic corroboration in the concrete reality of the international relations.

There have never been sensational refutations in this regard, even when delicate situations – almost reaching the breaking point – could have perhaps justified convenient deviations.

The Soviet Union has instead chosen, as main instrument of its political action, the skillfully manipulated information, both for supporting its internal power with



Artist's view of a Soviet space station. The USSR plans to send into orbit, in the early 90's, a space station of remarkable size, manned by a large crew.

incisive social reflections and, at the same time, as a means of pressure on the international plane.

This method stems from precise plans for reaching those goals deemed indispensable for Soviet prestige.

Nevertheless the lack of transparency sometimes proves ineffective, as shown by some difficulties recently arisen in the relations between the Soviet Union and some Communist parties of the West show. Rumania has, for many years, shown tendentially autonomous attitudes, which are added to the deep dissent creeping among the Polish people, who find, in the vast Christian component, reasons for moral and social redemption.

The Soviet Union has been forced to substantially accept the two very hot situations, limiting itself to an action of control, but there is no doubt that the tensions in the Warsaw Pact countries are

a nettlesome problem for its policy.

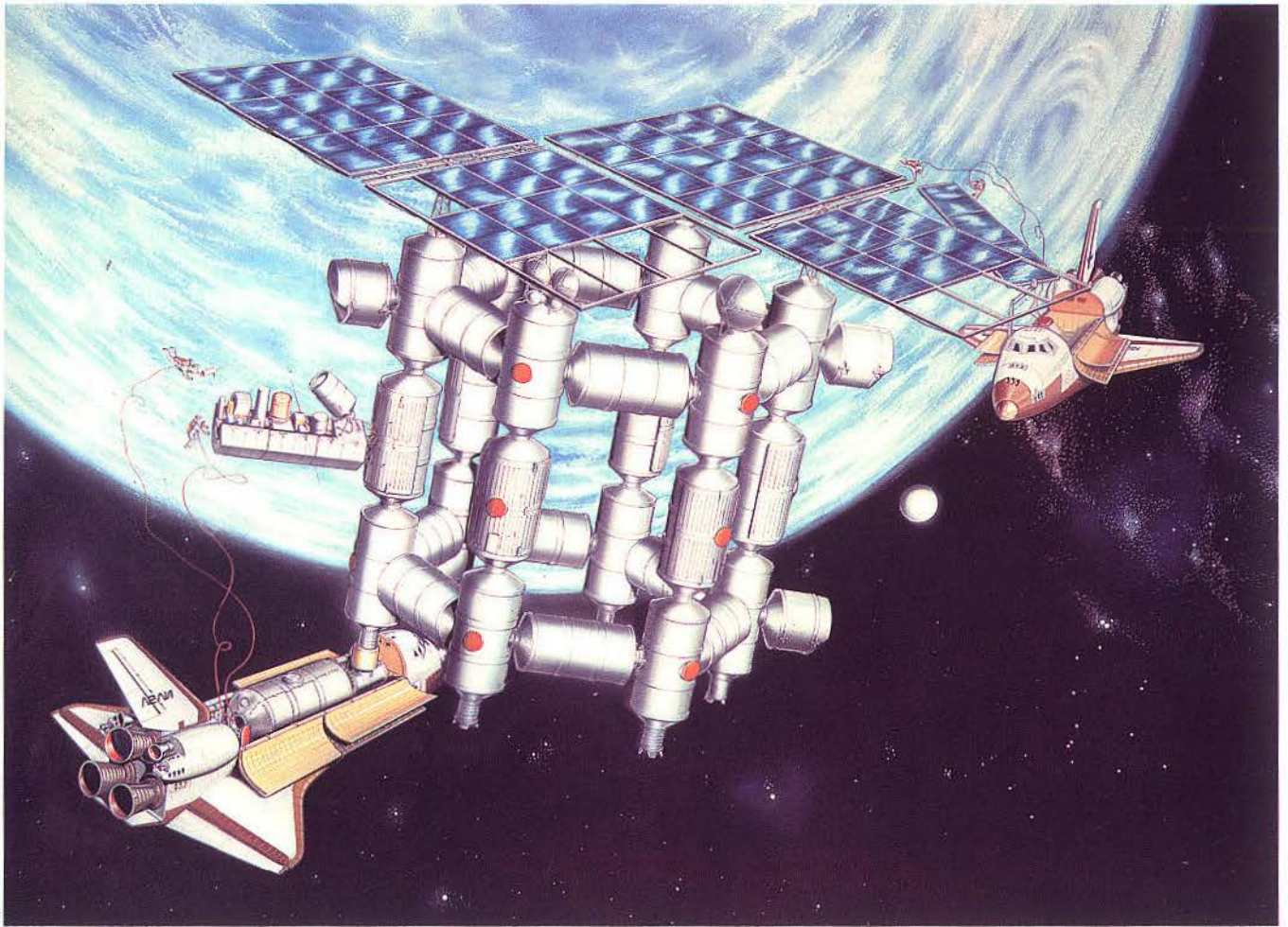
The Soviet Union's behaviour in international relations could be influenced by them, owing to the fact that the cautious Rumanian "opening" to the West and the effervescent Polish reality have drawn significant sympathizing declarations both in Europe and in the United States.

But the latter considers the Soviet methods of control and repression of requests – which, to all democratic consciences appear legitimate civil achievements in line with the times – irreconcilable with the general lines of its internal and international policy.

The confrontation between the United States and the Soviet Union is thus removed to the social plane, also in the light of the enormously different living conditions of the two countries.

They are two worlds which

THE UNITED AND RUSSIA CENTURY



Resupply of a U.S. space station by a "Space Shuttle". The modern technologies could give the United States the capability to develop new armaments, according to the so-called "star wars" doctrine.

reflect two clashing ideological conceptions: the American one, which intends to privilege the protection of human rights within freedom of thought and behaviour; and the Soviet one, which considers the superior interests of the collectivity preeminent over every form of individualism and opinion.

This is actually the "philosophic" origin of the two policies, whose outcomes are unforeseeable at the moment, because their ethical presuppositions are irreconcilable.

The repeated declarations of good will on both sides are not supported and confirmed by sidestepping the snares inherent to these fundamental parameters which sometimes lead to open disputes.

One can cite as an example the reciprocal boycotts of the United States and the Soviet Union during the last two Olympic

Games; events which, since their Hellenistic origins, marked periods of tacit truce and loyal keeping of a temporary peace among warring nations.

In the light of the constant teaching of ancient, civil Greece, we hope that the universal wisdom of mankind will prevail.

Détente, wished and pursued by all peoples in the present political world situation, cannot be and must not be a myth, a chimera, but a concrete show of good will and conscious responsibility in the light of true social and civil progress, which is the assertion of the spirit in history and the construction of a better future.

Ciro Di Martino

STATES IN THE LAST

TOWARDS ENHANCED FEASIBILITY AND CREDIBILITY OF THE «FLEXIBLE RESPONSE» DOCTRINE



For years, not to say right from its inception, the flexible response strategy has come under fire from several quarters. This criticism has shed doubt on its conceptual validity as a form of deterrence of the enemy's actions, particularly when compared with the pre-

vious strategy of massive retaliation. One of the consequences has been justified uncertainty over the practical possibilities of application in the case of conflict.

It is generally held that flexibility of response to aggression should take the form of a gradual

and controlled escalation of the means of retaliation. This can be done by choosing from a vast array of conventional, tactical nuclear, selected strategic nuclear and unrestricted strategic nuclear weapons.

However if the defence of large

ground units mainly deployed over a wide front in the immediate vicinity of the frontier can be easily and rapidly overrun by massive Soviet tank units, as is feared by a number of high military commanders, NATO would obviously very soon (within 24–48 hours on the admission of General Rogers himself) be compelled to make use at least of tactical nuclear weapons. Furthermore, the limited size, availability and operational readiness of the reserves (part of which would have to be air-transported from America) seems to indicate that they would not be capable of sealing off any breakthroughs in the forward defences, nor of containing the penetration in depth by the second and third echelons through the gaps opened by the first. Consequently, should the Commander of the NATO forces in Europe actually decide to try and stop the enemy offensive and to set up the conditions needed to redress the situation, he would not only have to request permission to use nuclear weapons very early in the piece (without necessarily receiving it in time) he would also have to use them in large numbers over a vast area, possibly including enemy territory, in order to prevent the enemy from building up his offensive. In short, the **escalation** from the conventional to the tactical and strategic nuclear weapons would of necessity be too rapid and lead to the consequences that everyone dreads. This is what reduces the applicability (or feasibility, to use the current term), and the credibility of the flexible response doctrine, at least in its current conception. This is due partly to the over-rigid operational planning involved, which is still bound to the needs of forward defence, and partly to the fact that the available conventional and nuclear forces as a whole appear to be both qualitatively and quantitatively inadequate from the standpoint of flexible response.

What does this mean?

First and foremost it means that the **first threshold**, i.e. between conventional and tactical nuclear weapons, has been set

too low, as General Rogers has admitted. In the second place, the level of the **second threshold**, i.e. the transition from tactical to strategic nuclear weapons, although selective, must be considered too low, should the extremely difficult situation arise of nuclear weapons having to be used on the enemy's territory at very short notice, and not merely as a warning threat.

In order to remedy the delicate situation thus created, which **will become increasingly more critical** as the Soviet forces continue to be strengthened, and at the same time to "raise the nuclear threshold", the NATO authorities have for some time been repeatedly demanding that conventional forces be boosted. This would mean a considerable increase in military spending (at least 3–4% per year annum in real terms). However, too many obstacles stand in the way of these

conventional weapons systems. These weapons would be equipped with low-power target-seeking warheads capable of effectively engaging the second and third echelons of the enemy before the latter go through and or bypass the first echelons and dangerously reinforce the attack in depth by his armoured units. However, General Rogers's proposal is "still around the corner" and, in my opinion, it would be advisable to take the necessary steps to bridge the feasibility and credibility gaps in the doctrine of flexible response mentioned earlier. In the following the operational plan (forward defence) and the characteristics of the forces involved (the tool) will be examined separately in order to see whether there is room for any effective improvement in



Multiple Launch Rocket System (MLRS).

requirements being satisfied by the various governments because of the persistent economic crisis. According to General Rogers this increase should be devoted to the construction of new deep strike

their credibility as a deterrent of conflict and in their operational effectiveness. The aim would be to achieve a truly effective form of flexible response characterized by an extremely gradual esca-

lation in the employment of the various defensive weapons.

FORWARD DEFENCE

At the time it was initially introduced as the basis of NATO's strategic doctrine, the principle of forward defence, together with that of massive retaliation, had a dual political aim:

and social tensions in the countries under western control, fanned by the action of the local communist parties, all contributed extensively to increasing the uncertainty and instability.

The principle of forward defence was intended as a means of making it quite clear that no attempt by the Russians to extend

by the strategic nuclear forces, which had the effective task of deterrence, thereby making forward defence by means of a small number of troops in advanced positions both feasible and economical.

The subsequent change in the relative strengths of the opposing forces led to the following gradual transformations of the doctrine:

- the conventional component gradually increased in importance and size and was also qualitatively enhanced by increased firepower and mobility (constitution of new mechanized and armoured brigade-size units);
- their employment became more rapid and dynamic (manoeuvre by strongpoint defenders, strengthening of reserves);
- in operational terms, the previous strategic nuclear superiority was replaced by a wide choice of tactical nuclear weapons which could satisfactorily offset the imbalance in the conventional forces;
- in any case, the strategic nuclear forces were given the capability of responding by means of a second strike to any Soviet nuclear attack (**mutual assured destruction**).

This process inevitably affected the development of the doctrine in its various interrelated aspects. The situation has since changed radically.

Forward defence is still one of the cornerstones of western strategic doctrine, but massive retaliation has been replaced by "flexible response". This was a consequence of the loss of credibility suffered by the western nuclear threat when the Soviet Union reached parity in the weapons field. Deterrence drew its effectiveness from the indeterminacy of the type, size and place of the response (whether conventional or nuclear) to possible Soviet attack.

There have also been marked changes in the political situation. The frontiers between the two opposing blocs have become stable and have been officially sanctioned by the 1975 Helsinki accords signed after the Conference on Security and Cooper-



570 Gepard/CA-1.

- to give explicit warning to the Soviet Union that the west would not yield one inch of any territory under the Alliance's protection, even at the risk of starting a shooting war;

- to extend a formal guarantee to the countries either belonging to or under the protection of the Alliance (the Alliance was set up in 1949 and West Germany became a member only in 1955) concerning the inviolability of their territory. It is significant in this respect that the delimitation of the occupied territories arising out of the armistice at the end of World War II represented an anything but stable frontier, and that the failure of the Red Army to demobilize, the coups that took place in the countries under Soviet occupation, the serious economic

the area already under their influence or control would be tolerated, as well as of consolidating the pro-western governments set up on this side of the Iron Curtain. Although the conventional NATO forces deployed in defence of the new and uncertain western frontiers were greatly outnumbered by the Red Army, the threat by the United States to retaliate immediately by using nuclear weapons against Russian cities represented a substantive material support for the principle itself. The main tasks of the small number of allied troops left in the occupied territories at the time were to carry out border control and security tasks and to act as a protective shield for the Alliance. But the sword, or rather the spearhead, of the Alliance was represented



A 129 multi-role helicopter.

ation Europe (CSCE). The concept of forward defence must now come to terms with the reduction in the original meaning of threat of immediate reaction and the wishful thinking concerning possible changes in the previously highly uncertain frontiers. What have been retained, however, are its clearcut political aspects aimed at ensuring the complete territorial integrity of all the NATO countries.

In the light of these changes of situation and function, it is now debatable whether forward defence should necessarily be implemented as in the past by the deployment of a thin screen of troops along the frontier. Would it not perhaps be possible and even desirable to seek other solutions that, while maintaining the

principle, reduce the risks and drawbacks in the face of an enemy that can rely on formidable aggressive weapons and can also choose the time of the attack.

THE TOOL

If it is accepted that the basic principles of forward defence and flexible response must be maintained it would at first sight seem logical to increase the depth of the positions around which the defensive battle will take place. However, in this case the troops/space ratio would decrease and a further dispersal of forces occur. It would thus be necessary to increase the number of rapid deployment units available, although this would entail considerable expenditure to set up and maintain the new armoured and

mechanized units. One possible alternative would be to attempt to set up new weapon systems which could be used to delay and wear down the attacking forces from a distance, at the same time boosting existing weapon systems. But this would involve not only high costs but also lengthy lead times. A two-pronged approach is what is needed: on the one hand, to proceed with researching and developing the arms of the future, in the hope that they ultimately allow a reduction and in the number and thus in the cost of the troops required, and on the other to **maximize the cost-effective use of what is already available.**

I should like to make the following five brief proposals:

- integration between "area de-

fence" and "mobile defence" using a prepared defensive position in contact with the forward edge of the frontier but with deployment in depth and subdivision into two areas;

- integration during the defensive movement between regular mechanized and armoured units and "local resistance formations" (the use of this term may cause some surprise, so I shall come back to

It is basically a question of adding another component to the forces available, namely "local resistance". This form of defence obviously entails making use of all suitable members of the population who, although issued with weapons and equipment only at the time of the emergency, would have received prior training in the direct defence of the cities and towns. The latter will be used as

provided for in Soviet military doctrine;

- the mobile (i.e. mechanized and armoured) defence forces initially employed flexibly between the local defended positions will be capable of arresting the attack in depth and of subsequently regaining the territory yielded to the enemy;

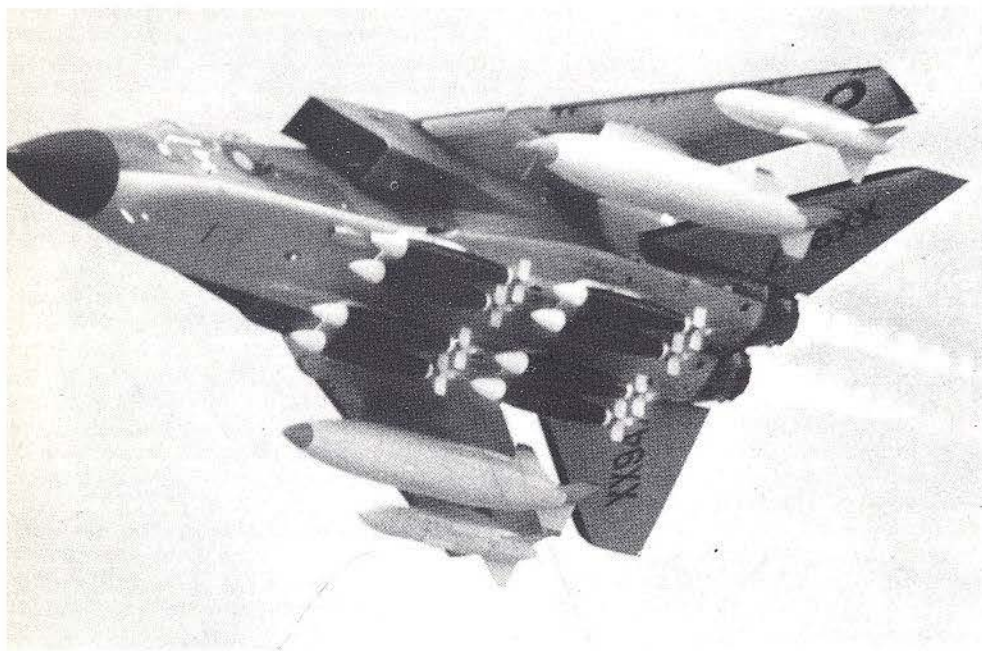
- the determination of the population living in the frontier area to resist invasion and their moral resistance will offset their limited firepower and mobility. The possible tasks assigned to these formations in the defensive battle can be summed up as follows:

- to defend built-up areas and any other pre-established position the defence of which would otherwise represent a considerable drain on regular mobile forces (although these areas could be destroyed by one single nuclear weapon, should the use of such weapons be impossible for political or strategic reasons, the local population can often put an exceptional resistance even if only lightly armed);

- to engage, wear down and channel the forward echelons of the attacking forces in order to reduce their capacity of penetration and manoeuvre, and to deny them the use of ground and lines of communication;

- after being bypassed, to keep watch over the movements of the second echelon and logistical supplies, also for intelligence purposes, to allow the use of any long-range and highly destructive weapons the defence is able to bring to bear.

Lastly, the NATO countries should "have the courage" to add a further element to their forces, i.e. the neutron bomb, in order to improve their fighting capacity and flexibility of deployment. The N bomb, or "enhanced radiation and reduced blast weapon" (ERRBW in NATO jargon), is an essentially defensive tactical weapon. It has the capability of killing men by radiation overdoses without causing any extensive damage to materials or infrastructure. It is thus suitable for use against attacking forces in that it is effective against troops mov-



RAF MRCA Tornado fighter bomber.

it later);

- extensive use of semi-permanent positions, active obstacles and built-up areas as essential elements of the defensive organization;

- organization of a second line of defence to be used if the first line, situated along the frontier, has been breached;

- organization of guerrilla activity throughout the territory occupied as a further reaction in the case of the defensive position(s) being overrun.

Lastly, it might be advisable to plan the employment of the whole range of nuclear weapons and clearly define the phases of escalation from tactical bombs through to euromissiles, earmarking targets in both the national and enemy territories, according to the predictable outcome of the battle.

strongpoints incorporated in the actual defensive system. When the defence in place of built-up areas ceases to have tactical significance, these forces can be used in guerrilla operations.

The effective use of "local resistance formations" is obviously based on the assumption that they are comparatively cheap and that:

- the enemy will launch his initial attack using only conventional weapons (escalation would otherwise inevitably and tragically ensue until a holocaust occurred) and that the generally accepted strategic and political reasons will induce him to attempt to penetrate the defensive system as rapidly and deeply as possible, initially overrunning defensive positions without stopping to mop up in order to maintain attack momentum, as in any case is

ing over the ground and can knock out vehicle crews without damaging the vehicles themselves. In particular, it leaves the terrain and building near the place of explosion comparatively intact. (The armour cladding of the tanks and transport and fighting vehicles affords little protection against radiation; the radiation is considerably reduced by earth and concrete, i.e. materials normally used to build shelters for the defending troops and civilian population). Furthermore, this peculiar weapon has a reduced fall-out effect, which would otherwise prevent the subsequent use of the territory on which the explosion took place. For this reason **it is more suitable for use in the territory of the NATO countries than tactical atomic weapons.**

In connection with these peculiarities, there is a comparatively long-standing plan to replace a certain proportion of the tactical atomic weapons with which the allied forces in Europe are equipped in order to enhance their capacity to arrest an enemy advance and to offset the quantitative disadvantages in the conventional land forces vis-à-vis the enemy. The European NATO countries could thus logically have been expected to ask the United States to take such steps. Instead, the effects of pacifist propaganda on the western masses, aided and abetted by the Soviet Union, coupled with fears of the possible repercussions on the internal political situation and the wishful thinking that Moscow could be convinced by good will gestures to negotiate the limitation and reduction of armaments, led President Carter to abandon the mass production of the new nuclear weapon and still act as a brake on the Western governments and military authorities in their attempts to plan its deployment. These essentially psychologically based facts stand out as absurd when the defensive problems of the Atlantic Alliance are viewed rationally and could have extremely negative repercussions on NATO's deterrent capability, shedding doubts as

they do that it has the will to defend itself and thereby encouraging the enemy to make an attack.

How can the Russians be expected to believe that the NATO countries really intend to preserve their independence and freedom at all costs, even at the risk of a total holocaust brought about by the use of strategic nuclear weapons, if their governments cannot find the common will to use much less powerful weapons on their own territory if required

looked. At most, it would be possible to choose to use the weapons with a certain degree of discrimination and selectivity, without renouncing the use of any one of them a priori simply because the enemy who is out to destroy us, as he daily repeats in his domestic propaganda, claims it is inhuman.

For instance, in order to contain escalation without giving up any means of defence, should the NATO's Europe-based forces be



McDonnell Douglas F/A-18 aircraft, denominated CF-18 by the Canadians.

to avoid being overwhelmed?

There is one disconcerting fact that is no longer a secret, and that is the Russians are building N bombs (and France is about to do so). On the other hand, under the effects of pacifist propaganda, NATO continues to be seized with doubts and perplexity as to whether it is advisable to make these weapons available to its ground forces deployed in Europe.

The only defence possible against a vastly superior enemy employing all available forms of struggle to exert pressure, i.e. threat of war, and political, economic and psychological menace, in a conflict that may be hot or cold and is ideologically oriented towards the complete destruction of the capitalistic, i.e. Western, world, is "global defence". In other words, a defence in which no available means can be over-

equipped with the neutron bomb, the Alliance could adopt a new political deterrent and tactical-operational criterion governing the use of nuclear weapons, i.e. to limit its first use to its own territory (in areas preselected according to certain operational hypotheses and consequently evacuated) in direct support of its own conventional forces in order to stiffen up their resistance, but at the same time to declare that the second and subsequent nuclear strikes will be directed also against the enemy's own territory unless he desists from his attack. This is obviously a much more gradual and flexible use of nuclear weapons and is thus less likely to lead to immediate escalation.

In the general picture outlined above, it will be necessary to go on building weapons of increasing

destructive power and accuracy, and therefore of growing sophistication, in order not to succumb to the enemy, but at the same time one must prepare to meet the attack of the enemy infantry with conventional weapons because, should the balance of power of the mass destruction weapons preclude them being used, the attack could ensure that control was gained over the territory required for its manoeuvre only by materially occupying it with his own troops.

CONCLUSIONS

Kissinger's recent proposals to increase the active, material and moral participation of western European countries in their own defence in the framework of the Atlantic Alliance (among other things he suggested that a European general be given command of the NATO forces in Europe), have given rise to doubts and controversies also in European political circles. There is a constantly lurking fear that suggestions of this kind are a prelude to American disengagement, however limited and partial. These assumptions and insinuations could also conceivably be aimed at damaging the mutual confidence of the partners on both sides of the Atlantic. I personally believe that Kissinger's proposals are basically valid also from the standpoint of deterrence and correspond to a moral need now felt by the European public opinion that the alliance with America is definitely indispensable and irreplaceable as far as keeping the peace is concerned. However, this same public opinion also feels that the security of the free countries of the Old Continent cannot be merely delegated to it, as this would ultimately erode their independence.

In this view of the moral values on which western civilization is based, together with the dignity and awareness of putting them into practice and the will to preserve them, the need is now felt that, also for a series of strategic and political reasons, Europe itself should propose that an improve-

ment be made at the operational and conceptual level in the application of the doctrine of flexible response.

In my view, two vital changes must be made as the logical development of the political choices already made when the Pershing and Cruise missiles were installed to counter the serious threat posed by the Soviet SS 20s, namely:

- to make neutron bombs available to the NATO forces in Europe as a partial replacement of its tactical weapons; prior authorization must be obtained for their use on the territory of the member countries to support the resistance of the large ground units in accordance with well-defined and fully negotiated operational hypotheses;
- active participation by the population (resistance formations) fighting in collaboration with the regular large units in the case of enemy attack, to be extended from the frontier area to the whole of the national territory in the case of invasion.

Western Europe must meet the global threat by means of global defence and retain the power to manage on its own territory **all the weapons it requires for its own defence.**

Nevertheless, the measures outlined above, insofar as they consist of modifications to NATO defensive strategy, can ideally be incorporated also in its "peace strategy", i.e. in its endeavour to reach an agreement with the opposing bloc in order to reduce the risk of conflict, and to limit or restrict armaments. Indeed, these measures tend to improve the balance of the opposing forces without increasing the threat to the Warsaw Pact countries. This is because they do not involve the possibility of conducting or sustaining offensive action, as do the Pershing and Cruise missiles which, although installed as a defensive measure against the SS 20's, are actually offensive weapons. In other words, they should not have a negative effect on the currently suspended talks but could even provide a pretext for relaunching them. In particular,

the renunciation of the "first use" on enemy territory could, without substantially reducing the possibility of nuclear retaliation after possible collapse by the conventional forces, give rise to a new political initiative to break the present talks deadlock.

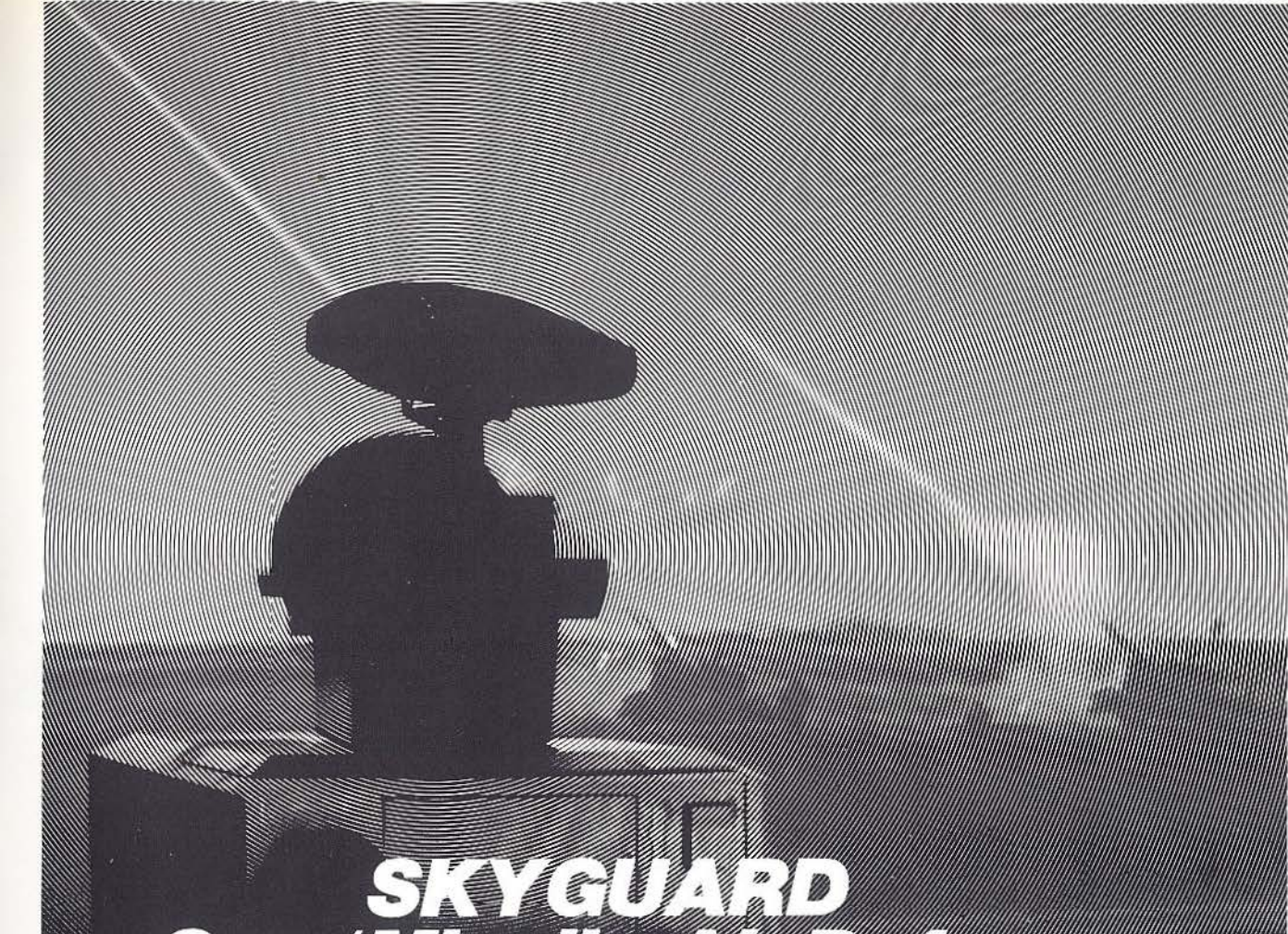
In conclusion, I think that if western Europe can achieve a greater capacity for defending itself and can prove that it has the will to do so whatever the cost, it will probably have greater leeway for taking an effective part in the dialogue between the United States and the Soviet Union, as well as for making new, realistic and acceptable peace proposals.

Vittorio Bernard



General Vittorio Bernard regularly attended courses at the Military Academy, the Service Branch School and the War College. He holds a degree in civil engineering from the University of Padua. He commanded

the pioneer company of the "Julia" Alpine Brigade, the pioneer battalion of the "Legnano" Division, the Engineers HQ of the V Territorial Military Command, the "Pinerolo" Mechanized Brigade and also served as a General Staff officer. He was military attaché for the Defence at the Italian Embassy in Moscow from 1973 to 1976. He directed rescue operations in Basilicata at the time of the earthquake in November 1980 as Head of the Provincial Operational Centre of Potenza. He was course leader on the General Staff Advanced Course and has been Director General of Geniodife since 1st August 1982.



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NEW TASKS IN THE FOOTSTEPS OF TRADITION



True as it is – and as statistics show – that almost every day in Italy a new periodical is born and another dies, from the longevity viewpoint the “Rivista Militare” is doubtlessly a lucky publication, for it is one of the oldest magazines in the world. A longevity that bears the mark of many cultural battles: during our Risorgimento, in the epoch preceding the first World War and in the second postwar period, when the Italian Army was rebuilt, reorganized and restructured.

The “Rivista Militare” – which was founded in 1856 by two brothers, Carlo and Luigi Mezzacapo, Neapolitan officers living in exile in Turin, when Italy, according to Metternich's scornful words, was only a “geographic expression”, was a publication which revealed itself as indispensable for filling the cultural void existing inside the Piedmontese army.

THE FOUNDERS AND THEIR TIME

The Mezzacapo brothers, former officers of the Neapolitan army, arrived in Turin as exiles at the beginning of 1853, having deserted from their army and taken part, as volunteers, in the defence of Rome and Venice. They first took refuge in Genoa with other officers coming from other States of the peninsula. Having used up the savings they had been able to put aside in the preceding years, the two brothers went to Turin, in the hope of finding employment as military writers and journalists.

The Mezzacapo brothers had graduated from Naples Nunziatella Military College – which was then considered the best – together with other officers who later on asserted themselves as pa-

trials on the battlefield and as first – class military writers, such as Carlo Pisacane, Girolamo Ulloa, Mariano d'Ayala, Guglielmo Pepe, Enrico Cosenz, Pietro Coletta.

Despite their worthy past and their uncommon culture, the two brothers found serious difficulties in entering the Piedmontese military circles. The Sardinian Army was not a fertile ground for new ideas, debates and military culture in general. Its mentality was strictly conservative, and it was almost impossible for strangers to overcome the barriers of prejudice that were put up, from all sides, against "erudite" officers. There is trustworthy evidence of this situation, as in the following words by Ferdinando Pinelli:

"There was, in the Sardinian Army, the peculiar idea that to study was of no value whatsoever for learning the art of war, and courage alone should suffice. The studious officers, besides being almost scoffed at by fellow students, who ironically called them "erudites", were also disliked by the Government, to the point that a very talented officer, having met with incredible difficulties in obtaining permission to publish a work on tactics and strategy, was forced to have it printed in Paris, where it was highly praised by all experts".

If it was impossible for a Piedmontese officer to publish his studies in Piedmont, it is easy to understand the kind of problems that the two Mezzacapo brothers had to overcome, in order to have their work as military writers accepted. They were not lacking initiative, anyway, for already in 1850, in Genoa, they had started the "Military Library for the Italian Youth Inclined to Military Service", in which they introduced and commented the works of Italian and foreign military writers, making references to the varied politico-military situations of the peninsula. It was a bold editorial enterprise, in times of deep-rooted illiteracy.

Also in Turin the two brothers managed to open a breach in the solid wall of Piedmontese impenetrability. Carlo published as

many as 43 articles in 1854 and 73 more in 1855, contributing to the paper "Il Diritto" and to the "Rivista Contemporanea", the best of its time, on which also Niccolò Tommaseo wrote. The other brother, Luigi, carried on a similar activity and, in the end, the two acquired a high reputation, as can be inferred from the letters addressed to them by numerous exiles who asked for their assistance in various matters. Among these, there was Carlo Pisacane, who begged Carlo Mezzacapo to use his good offices in order to obtain the release of a young Mazzinian agent arrested in Genoa. This kind of friendship was certainly not of the type that the Piedmontese authorities appreciated. Pisacane also asked that the paper "Il Diritto" published in its supplements "a work that cost me five years of labour, and now I cannot find an impresario willing to stage it". He alluded to his "Historical, Political, Military Essays on Italy" which were published only after his death and are one of the most significant works of the Italian military literature.

In March 1856, Luigi and Carlo Mezzacapo started to publish the "Rivista Militare" with the Barella printing house. In the first years the articles were written almost exclusively by the two brothers. The Piedmontese military authorities ignored the initiative, despite the clear invitation addressed to them in the first issue: "All the Armies in Europe have reviews that deal with military art and science. Piedmont alone, in which the military traditions are so numerous and splendid, satisfied with a few sheets which, due to their limited dimensions, are prevented from soaring up to weighty and solemn subjects, has not, up to now, prided itself on a paper, which, having an essentially scientific character, could freely range in the field of the most significant questions". The invitation was even more explicit in the following assertion: "The publishers of this review invite the officers of every branch and the experts on military matters to give lustre to these pages with

their valuable contributions".

After its first year the "Rivista" was suspended for a period of four months, owing to financial difficulties. There had been only one hundred subscriptions, while the need was for at least three hundred, just to face the indispensable printing costs. Publisher Carlo Voghera, with a remarkable show of confidence, took upon himself the financial burden, allowing the "Rivista Militare" to resume publication in July 1857; but soon the financial problems were felt again, and this time even more deeply.

There is a letter in Carlo Mezzacapo's own hand, addressed to the War Minister, Alfonso La Marmora, to whom he describes the damage that the suppression of the "Rivista Militare" would do to the Army's culture. Mezzacapo suggests that the Minister use the review, and a possible weekly supplement, for the systematic collection of all the Ministry's publications, regardless of those already appearing in the Official Military Journal.

La Marmora answered through his secretary, General-Petitti, that he agreed to the request, affirming that the War Ministry would buy one hundred copies of the review. The fact remains that the review had to overcome the initial crisis relying on its sole strength and could continue publication only thanks to the publisher's courage and the Mezzacapo brothers' will.

Examining the articles published by the two brothers in the first issues, one understands how their originality vis-à-vis the ideas then reigning in Piedmont represented the necessary shock-wave for a deep renewal of the military thought. Italy was divided in seven states and they already talked about a unitary defence of the peninsula, affirming that the loss of the Po Valley did not mean, as everybody maintained, utter defeat, because resistance was possible all along the Apennines, down to the extreme solution of maintaining the national sovereignty in the islands, waiting for possible counteroffensives, made easier by the land's conforma-



tion.

They also asserted the need to fortify the alpine passes that could be included in the operational lines of the invading armies. But the defence of these passes should not have been a passive one, as fortifications could suggest; on the contrary, it should have been active, with vanguards sent very much ahead to delay the enemy's advance. They closely examined the defensive positions more suitable for resisting an invasion, from the Alps down to the tip of Calabria, and indicated the most important strategic points that should be protected and possibly fortified. They introduced an innovative concept in the military studies, which, later, was often ignored in the overall vision of defence: i.e. the action that can be performed by the

population for resisting an invader; an important action, for the defence of Italy was not only a military question but mostly a national problem.

In its substance, the Mezzacapo's outlook is, from certain points of view, halfway between the official Piedmontese vision of a "royal war" which completely overlooked the support of the people to military operations, and the "people's war" supported by Garibaldi and Mazzini. Moreover, while everybody else was just talking about offensive operations against Austria, the Mezzacapo brothers went beyond this limited vision and envisaged "a priori" and in detail how the defensive operations should be developed, after the liberation of the national territory. In this sense, they turned out to be real forerunners in the

military events that followed each other during a century of our country's history. The clearest evidence of this rational foresight can be found in their survey of the operational lines that could be followed by an adversary invading the Italian territory. The Mezzacapos underlined the great damages the defenders would suffer if the enemy was to get over the Tarvisio line and to descend along the Predil pass. These forecasts came true punctually fifty years later with the Caporetto rout!

Almost a century later, the successive defensive and operational lines adopted in the Italian campaign had precise references in the terrain evaluation made by the two brothers.

Carlo Mezzacapo's "Military Studies on Italy", after appearing in the *Rivista Militare*, in 1859



were collected in a volume published in Milan by Francesco Vallardi. It represented one of the military texts most appreciated for the novelties it introduced in the studies of military art. The novelties concerned the survey of operational problems, not simply restricted to the abstract relief map of the national territory, as it was then the use at Commands, but extended to the environment, considered and evaluated as a whole, from many points of view: – human, historical, spiritual and moral, – which characterized each region and unit. It was a new outlook that sharply differed from the poverty of the contemporary military thought, the main feature of which was “to advance at all costs” along two or three directions converging on the objective. This poverty of thought had al-

ready been significantly proved in 1849 chief of staff of the Sardinian Army.

It was an open acknowledgment of the intellectual crisis of the Piedmontese military, expression of the lack of studies and culture and the consequent inability to rise above the simple tactics and the prestige skirmishes among commanders.

In the light of these facts, one can understand the meaning of a publication such as the “Rivista Militare”, in a moment when the Italian Army was being created, with 16,000 officers coming from various armies, including Garibaldi’s own, all with very different doctrines, mentalities experiences and methods. One can also fully estimate the work done by the two Mezzacapos for the cultural improvement of these offi-

cers, 50% of which belonged to the Sardinian army and had taken part in the campaigns for Unity, and 25% had fought in other armies and participated in the war events after 1848.

THE VALIDITY OF A FORMULA

The initial programme of the “Rivista Militare” represents one of the basic documents of the Italian military culture, owing to the developments that it set in motion. One can find in it the reasons for the review’s longevity and the validity of a formula which, ever, today, seems the most balanced in the field of military publications. In the programme published in the first issue, the Mezzacapo brothers state that an army has an



"inevitable need" to have at its disposal a periodical publication, so that the officers will not wander "from the movement of studies and ideas which is the foundation of their social condition". They invite the contribution of all officers and "experts in military matters". They maintain that the review should not be written only by members of the editorial staff, or by a limited number of external contributors, but by a plurality of authors. They invited, therefore, all officers to use the review for presenting experiences and proposals for the solution of the existing problems.

According to the editors' idea, the Italian military thought should not have been addressed to a limited circle of top officers, but should reach all members of the army. As a consequence, also the

personal ideas that did not coincide with the "official" opinion should be accepted and published, as an expression of the military thought of a certain period and witness of experiences that deserved publication. The articles, in order to be published, had only to comply with the rules of military style and propriety, that is, the exclusion of "political questions, useless polemics and personal discussions".

The review was conceived, in its potential outline at least, as a precious means through which the military base could have a voice in the choices the summit was called to make, owing also to the vastity of the subjects that would be discussed, which were evenly divided under different headings: military, scientific and humane

sciences. The balance between the scientific and the humanistic side was just the distinctive feature of the review: next to the traditional scientific and technical subjects, the following themes were envisaged: military ethics, ancient and contemporary history, military aphorisms, retrospective and contemporary critique. Therefore, not only did the review adequately stress the importance of technical and scientific preparation but, in a rigidly conservative milieu, incited public criticism on the most interesting military matters. The pages of the "Rivista Militare" were to be the stage of cultural battles, where perplexities and moods would be revealed, bringing to light the true character of the military culture of the time. According to the programme of

the first editors, the magazine should be enlivened by cultural engagement and qualified intellectual responsibility, which would stem from study and research, activities almost unknown in the armies of their time. The two editors were forerunners in this respect, for the official circles then believed that an officer's best quality was "experience on the job" and not culture, considered unimportant.

Another fundamental feature of the programme was the close relationship of the Review with its times. Every study and every proposal should be connected to the military reality of the moment. Among other things, and in order to further stress the need for a real link with everyday events, they started the "Military Chronicle" column. Its monthly periodicity was not in contrast with the intention to be in touch with the times, because it could, with reasonable timeliness, witness the main necessities of the army and reflect the problems, enthusiasms, hopes and deceptions felt by the officers.

The Mezzacapo brothers said that only "the value of the work can give prestige to the review and gain the favour and admiration of the national and foreign armies". It was an easy prophecy, because the orders of the Commands, aimed at increasing the number of subscriptions among the officers, diminished the prestige of the magazine. It should have been convincing on its own merits, not because of somebody else's will, not forgetting to avail itself also of the "help of the graphic art" in order to be interesting and well accepted.

THE NEW TASKS

Our going back to the origins of the "Rivista Militare" has a precise relation with the present situation, because it helps to overcome everyday difficulties and points the way to follow when deciding the fundamental trends that characterize the functions of this publication. Our thought goes back to the first editorial of the Mezzacapo brothers, in which

they set a programme valid to this day, which requests all of our energies to reject the frequent attempts to overstep the barriers set up in 1856 about "personal discussions and sterile polemics."

We wish to keep this barriers, also in view of the new tasks entrusted to the magazine, which are added to the traditional ones of expanding and updating the technical-professional preparation of officers and keeping alive the traditions and currents of military thought. The new tasks, closely interdependent with the traditional ones and quite absorbing, are in complete harmony with the Mezzacapo's original programme. In short they are as follows:

First: help to inform public opinion about the problems of defence, widening the discussion with a series of editorial initiatives in order to reach the entire national community and, from certain points of view, also the international community, through an English edition and the publication of special supplements.

Second: help to create a culture of security, which is not the heritage of the Armed Forces alone, but of all citizens, and all State institutes should contribute to its formation.

In a democratic system characterized by a plurality of information, such as ours, the citizen should be adequately informed about the problems of defence, and the military institutions should give their contribution in the sector of public information.

Therefore the review, sold now at news-stands, performs an important public function, informing about the military instrument, the balance between the country's means and the necessities of defence, in order to make the problems and scenarios of the national security better known through complete and qualified information.

It fights its cultural battle, convinced to help the cause of peace and civilization, especially important today when the field of information seems to be coveted by powerful pressure groups,

which have plans of cultural and social hegemony. Therefore the military institutions' intervention in the diffusion of a "culture of security" is fully justified, because it is the responsible fulfillment of the words of our constitution, according to a concrete democratic conception of the State.

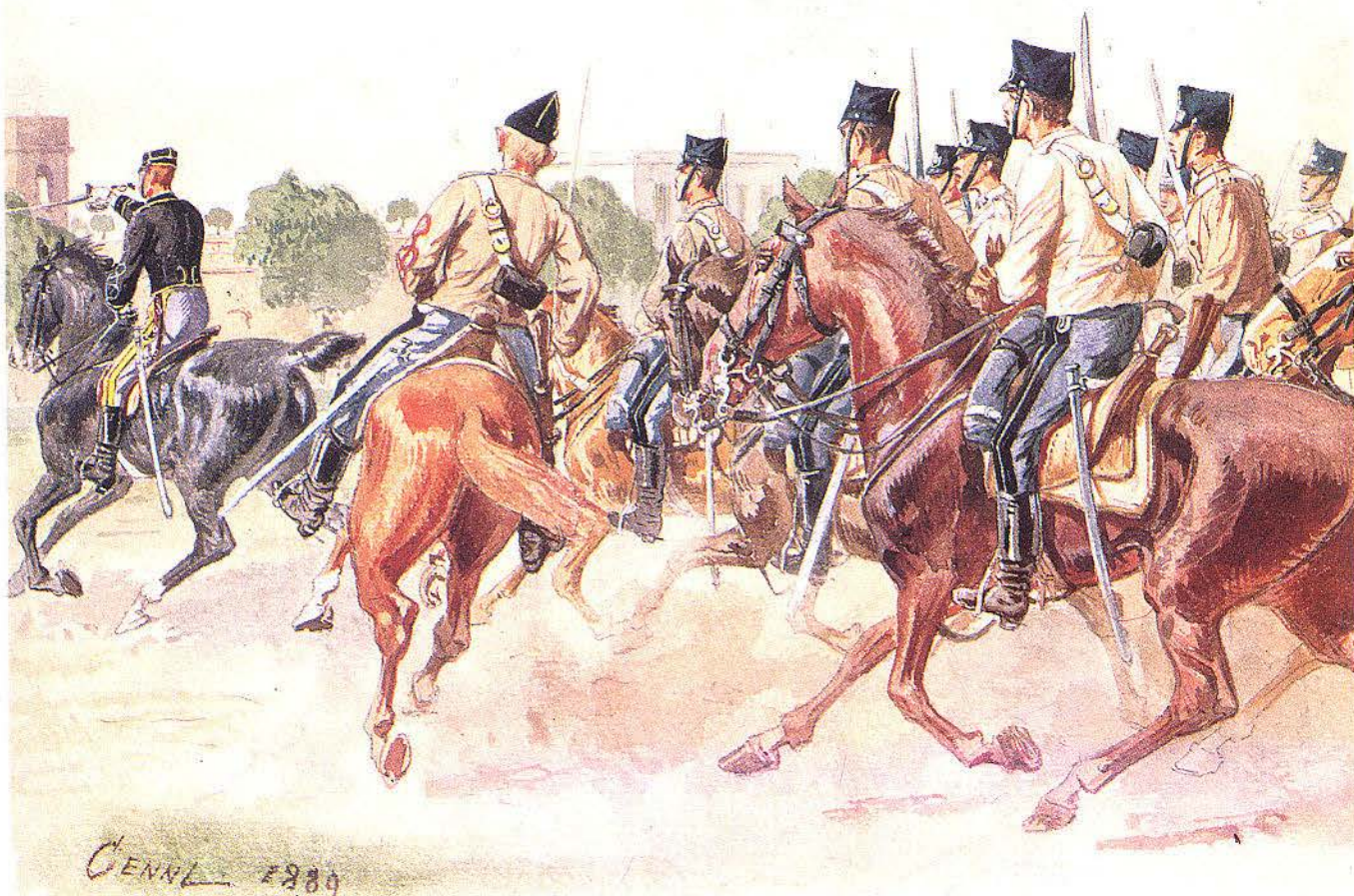
The editors of the national dailies have acknowledged on these very columns that the Italian citizen is not adequately informed about the problems of national security.

In truth, though lessened, there remains a sense of detachment between the military and the civilian society, which incites us to operate inside society and for society. Thus the sectors of information and culture entrusted to the "Rivista Militare" are becoming leaders in the Army-Country relations, in the attempt to bridge the gap that the mass-media have been unable to fill.

If such is the situation in Italy about public information on national security, if it is true that the daily newspapers are incapable of adequately informing the citizens, it ensues that the "Rivista Militare" can carry out a task of the greatest importance.

The concept of a military press is just coming to light through the "Rivista Militare's" initiative which is aimed at reaching an increasing number of readers. If, until a few years ago, our publication was the expression of a limited cultural group, which used an elite language, our present contributors are trying to renovate military journalism, in its contents and form, in order to establish a better relationship with the public. They try to inform the man-in-the-street, because to inform means to explain ideas and facts, respecting the various political opinions. Our task is to guarantee the fundamental values, such as the comment and multiformity of opinions, from which the debate of ideas stems.

We try to overcome the mistrust of those readers who consider our review a vehicle of ideas limited to narrow cultural circles,



working with the consciousness of our roots which reach deep in the Risorgimento's soil of military honour and sense of the State, putting us above the various parties.

The "Rivista Militare" wants to promote not only the ideas of the summit but also those spontaneously coming from the base. These ideas are the expression of cultural traditions related to the two trends, innovative and conservative, which since the last century have marked the military debate in Italy.

After all, thinking about the origins of our magazine, it is quite evident that the review belongs to a vast public: officers and non-

commissioned officers who want to update their preparation, scholars willing to improve their military culture and take part in the debate, citizens who ask to be informed on problems regarding national security.

Our aim is to remain above the parties, to work for society and to be mediators between the summit and the base, a base as large as all Italy, without overlooking the international community, to which we are sending timely messages.

NEW TASKS IN THE FOOTSTEPS OF TRADITION

Pier Giorgio Franzosi

THE UNIFIED DEFENSE OF EUROPE

A DREAM OR A REAL PROSPECT?



As for the topic of a political Europe and of its possible international role, also the theme of a European defense draws anew, from time to time, the attention of the experts and of a part, at least, of the public opinion. This is exactly what happens in these days; it might be convenient, therefore, to briefly look into the principal terms of the problem.

Even apart from any deeper political investigation and to better put the accent on our subject, it should be remarked that the problem itself finds a satisfactory solution only on a political level, i.e. only after having defined the role, the responsibilities, the objectives, the spheres of interest and of action which should be assigned with an "updated" view, either to the present complex of European communities (EEC, ECSC and EAEC) (1) or to possible and future European body.

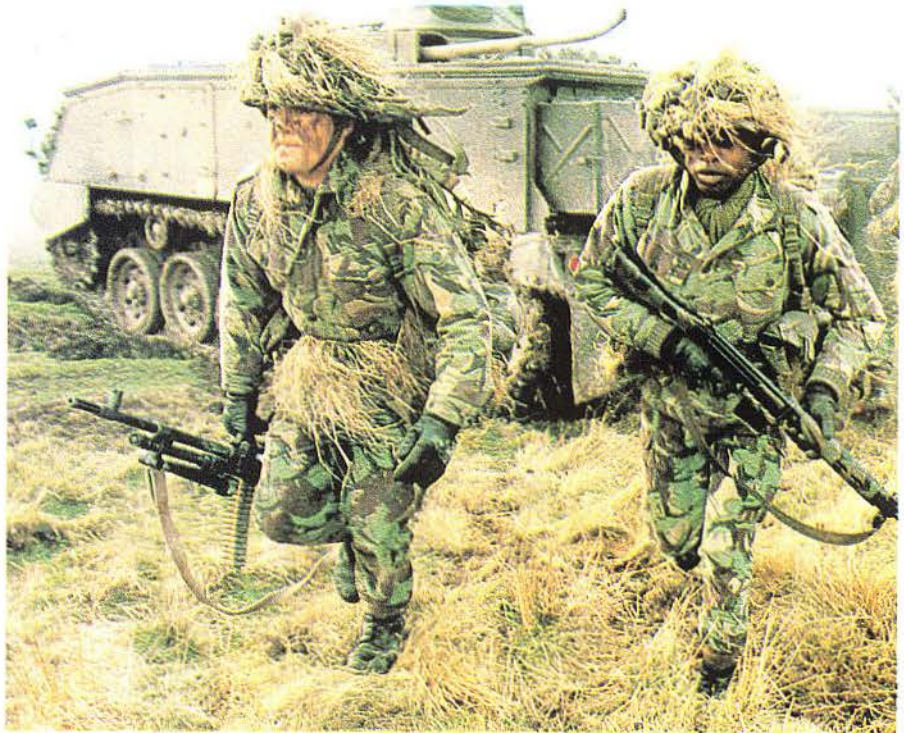
In this instance, we see that the institutes, within which a European defense should be planned and implemented, acquire a prominent importance. In short terms, three possible solutions might be assumed: **to keep alive the present system** strengthening, if necessary, some of the inter-governmental cooperation instruments; **to set up a European Confederation** having the task of coordinating the foreign and defence policies of the member countries; and, finally, to establish a **European Federation** charged with the management, in a unitarian way, of all the public-political, social, economical, financial, scientific-technological and defensive activities of the federated states.

Each of such three models entails specific aspects. In fact, a defense policy, however considered, is first of all a coordination policy. And it seems obvious that the coordination be conceived, at different levels, as a collaboration activity or, at any rate, as a true integration process in direct connection to the specific type of organization adopted. This is, really, the core of the question. But before entering any further discussion, it might be convenient to clarify what do we intend as

a "defense policy".

The "defense policy" might be defined as "an uninterrupted process conceived to grant to a state, or to a group of states, a defensive instrument capable to face, at any

British infantrymen.



time, any possible external threat and, within certain limits, even an internal one".

Especially for study reasons, we might agree to split this process into "phases" which form, however, a continuous series of acts. And this for a very simple reason: the defensive instrument set up and kept effective should constantly be "updated" in connection with the flow of the political and strategic situations, on one side, and with the scientific-technological evolution, typical of modern armaments and equipment, on the other. We can, therefore, consider:

- a first phase, to determine the political objectives to be attained through a suitable defensive instrument; within which the decision to belong to a certain party is taken through new alliances or the confirmation of the old ones and, of course, after having clearly indicated the possible enemy;

- a second phase, to define

the strategical lines (nuclear, nuclear-conventional, conventional, intercontinental, continental, regional, etc.) to be adopted as a consequence of the choices taken during the first phase;

- a third phase, to set up the organizational model to be assumed in connection to the selected strategy (type of nuclear "deterrent", nuclear tactical complex and conventional complex, priorities for the aerial, land and naval forces) keeping in mind the possible "scenarios" and the possible theaters of operation;

- a fourth phase, to define the financial resources necessary for the various programs (one maximum, optimal; one, or more, intermediate; one minimal, capable to grant an acceptable defensive effectiveness);

- a fifth phase of actual assignment and allotment of the available resources, in connection with a series of organic implementation programs;

- a sixth "operational" phase,

concerning the forces organization, the management of the research and test programs, the production and distribution of equipment, the training, etc. (to show how all these operations are strictly and mutually connected, the word "operational" has been put within inverted commas).

The close relation between the new institutes adopted, or the old ones kept alive, and the ways of a common defensive policy is here particularly evident. But this point deserves to be clarified.

In case of a defense based on the existing institutes – integrated, if necessary, with those of the Western European Union (WEU), which already takes care of defensive programs – it would be impossible to assign, within a strategic and operational integration, highly ambitious objectives (2). Better could be done adopting a confederative structure. However, the optimal assumption, even more difficult to carry into effect, remains still the creation, in a reasonable number of years, of a true Federation, the only form capable to grant a unitarian nature to the defensive, and not only defensive, problems of the member states (3).

None of the three hypothetical solutions now mentioned seems achievable on the short run. But the decision to base the defense upon the present institutes, because being precisely the less ambitious, might permit to start with a solution, if not immediately, at least in relatively narrow limits of time.

A particular point needs to be clarified before considering the mutual relations which might intervene – in this case the conditional is mandatory – between the various institutional models and the phases of a possible european defense policy.

Be it for political reasons (loyalty towards a choice taken several years ago, but still fully valid for many years to come) or for technical grounds (economic-financial as well as scientific-technical impossibility to achieve, only with western european resources, a "total" defense system), the definition of the political

objectives for a possible european defense system, here identified with the first phase, appears relatively easy (it is perhaps the only simple aspect of the problem), and an expected one as well, at least in connection to the probable developments of the present situation. And this independently from any institutional

Below.
Dutch infantrymen.

Facing page.
Multirole fighter MRCA "Tornado".



mechanism possibly adopted.

It can be affirmed, therefore, that the system shall in any case operate, be it a development of the existing or a new one, within the Atlantic alliance and for the preservation of the east-west balance, unless – desirable, but scarcely probable – a general and controlled disarmament intervenes.

Obviously, a european defensive system shall not be a crystallizing element, but form, with its capability to face a wartime or different confrontation, a deterrent factor against any armed clash. Either in the global frame of international relations or within the east-west balance, it should contribute to a climate of real détente and factual cooperation which – it seems worth to note – might be the most valid assumption to establish, in a certain

number of years, not only lower and less heavy burdens of military balance, but also ever better civilities between the nations. The specific ways of such an action, necessarily bounded to long terms, shall be obviously determined only at political level. In other words, within the institutional mechanisms above considered.

Having cleared all this, it seems now possible to highlight the mutual relations mentioned before.

In the more limited hypothesis – i.e. the one utilizing the existing institutes, strengthened if necessary – the construction process of a european defense might be started through permanent and periodic meetings of the Foreign Affairs and Defense Ministers of the community members. During such meetings and, whenever

necessary, through directives dictated by "ad hoc" summits of the Chiefs of State and Premiers (4), the Ministers could determine timing, nature and phasing of a common defense policy.

At the same time, a "euro-pean" General Staff should be established and charged with studies and tests necessary for the

European Parliament, by the national Parliaments of the Community's member countries or, as a form of cooperation, by both? To discuss at length this theme would require much space and is therefore impossible in this instance. We shall only note here that, in the first as well as in the third case, an agreement

etc.) taking in account the substantially "national" nature of the latter; for the other solution, they could set up their links on almost exclusively "federal" bases.

In both instances, the political control over the defensive decisions and activities should lay within a Parliament (confederal, in the first case and federal, in the



political decisions, on one side, and with the translation of such decisions into technical terms (strategic, tactical, organizational and logistical), on the other. The Staff could be flanked by civilian experts with specific knowledge in different fields (financial, industrial, etc.), directly connected to defensive activities. Moreover, very narrow links should be established with the principal public and private bodies dealing with scientific and technological researches, in one way or another applicable to the defense. For obvious reasons, being the Western European Countries ruled by democratic regimes, all the considered initiatives should undergo, during their definition or implementation, proper parliamentary controls. And here arises a problem not easy to solve: such controls should be exerted by the

within member states could be necessary to define again authority and powers of the European Parliament.

Within this hypothesis, as well as within the other previously mentioned, the attainment of a valid political-technical balance is a "conditio sine qua non" for the success of any initiative.

In both solutions, confederal or federal, unique Foreign Affairs and Defense Ministries could be formed for all the member countries of the existing Communities and, obviously, for those who would join sooner or later. However – and this is evident – such Ministries would operate within a context and at very different conditions in each considered case: in a confederative solution, they should base their relations to the remaining public bodies (financial, economical, research,

second one), elected through universal suffrage. To create such a Parliament should not be particularly difficult. It is already a consolidated praxis by every Union of States, however conceived, to consider a body of such sort. The difficulty lays, instead, in creating that kind of Union: less hard for a confederal solution, more for a federal one.

For each political body, the progressive development of the various phases mentioned before could, of course, be only of one single nature, i.e. within a clear confirmation of the western and atlantic choices. However, the technical implications of such an option might vary sensibly depending from the institutional model adopted.

This appears evident, first of all, on the strategical plan. The selection of a strategy is not an



isolated fact standing on its own: in many cases it is a compulsory consequence of other choices. And this is particularly true in our case. Practically, each of the indicated institutional models imposes a specific strategic line, with inevitably narrow margins of manoeuvre.

Within the hypothesis of a defense based upon the present institutional mechanisms, as we have seen before, it would be impossible to divert very much from the actual general lines. The european strategy would remain confined within the NATO strategy: it could be based upon more narrow links between the european forces, on an operational coordination conceived both as a european and as a NATO function, on a more large flexibility, on a more integrated engagement of the reserves; it would keep unchanged, however, its con-

ventional strategic nature, only valid until kept under the protection of the U.S. nuclear "deterrent"; the "deterrents" of France and U.K. are and would be considered, in this hypothesis, as national forces. On the other hand, their capability to survive and react is largely conditioned by the existence of the so more powerful american "deterrent".

Another strategy could be associated, on the contrary, with the confederal hypothesis; however, even this one would be limited, however in lesser proportions. One could imagine, in this case, a certain operational coordination between the french and the british "deterrents", although not without enormous technical problems given by the fact that both "deterrents" follow sensibly different procedures and adopt different structures, weapon systems and communication. It

could be, in other words, a strategy substantially keeping its conventional nature, but with some nuclear aspects not deprived of a certain "credibility". (It seems worth to mention that the "credibility" of a nuclear "deterrent" is bounded not only to technical factors, but also to the existence of a political authority charged, whenever necessary, with the terrible responsibilities of the actual use of the "deterrent" itself).

It appears evident, at this point, that only the implementation of the federal hypothesis could permit to the europeans to set up - be it clear, merely as a deterring instrument - a well balanced nuclear-conventional strategy. Of course, not a planetary strategy, unnecessary for a european Federation linked to NATO and not achievable for technical as well as for economic-financial reasons, but rather one limited to a continental range.

Without entering in further details, whose discussion would go beyond the limits of this article, we may only affirm that, within the different institutional models earlier described, the forms of the here outlined strategies should be defined during the second phase, obviously in connection to the selected model and to the related political objectives.

Obvious reasons forbid also a deeper discussion around the possible implementation of the remaining phases. We can only try a very brief description, always in connection to the three hypotheses considered.

For a european defense based upon the present institutes, the organizational model should only slightly differ from what exists nowadays. Common command structures could be set up, if so required. A more narrow coordination on the logistical plan could be actuated as well. As far as the definition and the allotment of the financial resources are concerned, not much more of what is done today could be accomplished. Probably some sound results could also be achieved for the development and the distribution of equipment, if not

Facing page.
Antitank "Milan" weapon system.

Right.
Belgian paratroopers on patrol.

standardized, at least capable of a good interoperability. Profitable outcomes could finally be reached in unifying or, at least, harmonizing the training procedures.

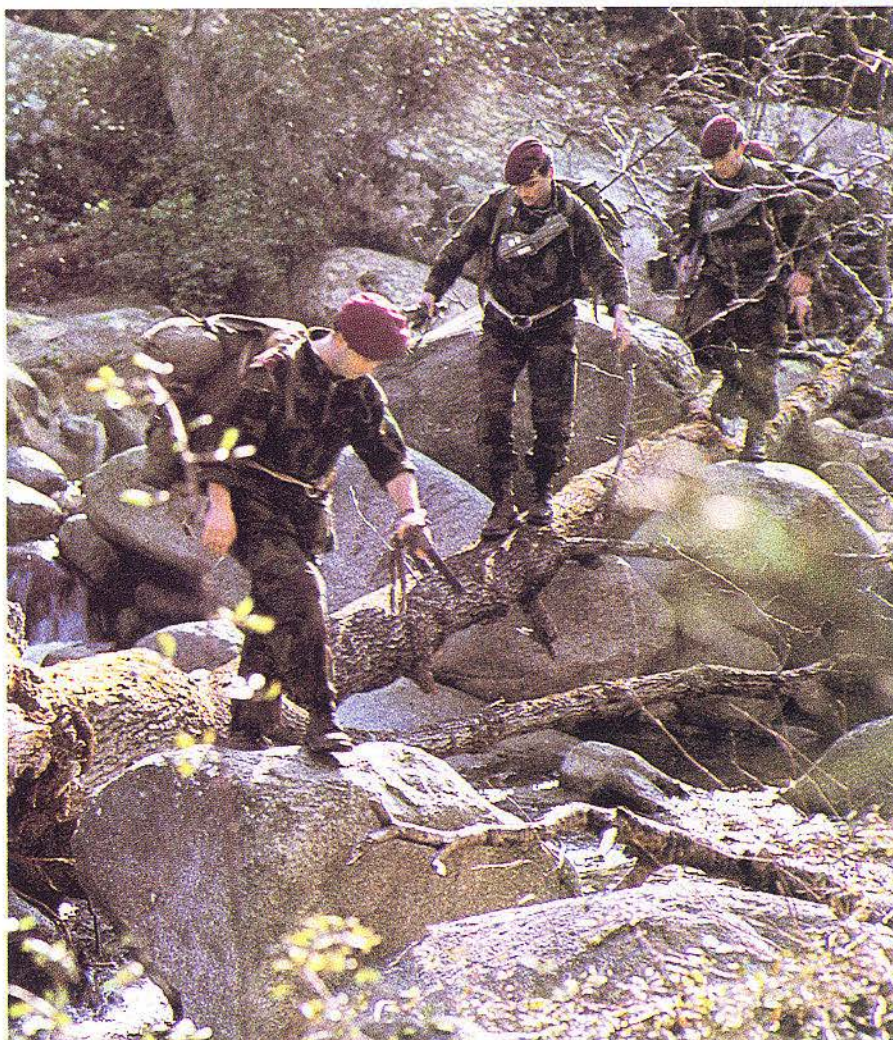
For the hypothesis of a european defense based on a confederal structure, the process should not be a very different one. Better results in unifying headquarters and training procedures could be probably gained. A particular care should be required, however, to overcome the obstacles inherent to a structure including "supernational" and "national" elements.

In the case of a federal european defense, the coordination could be obtained in a much more tight way at every level. The existence of federal bodies having specific financial and economic authority, could or should, at least, permit a more organic resources allotment, with favourable consequences in every field, to begin with those concerning equipment's development and production. Moreover, the actual centralization of political power achievable through a federal structure could really grant new openings to all the activities.

To close – but not to conclude, since the matter remains open – a few other considerations.

We have discussed here three hypothetical solutions, referred to the connections between the three institutional models and their related lines of development for a unified european defense. These are the three solutions more close to the models already experimented in various parts of the world, included Europe. Which does not exclude the possibility to find other solutions, even completely different.

The main point, at least for the author of these notes, is another. A really unified european defense can be constructed. Its implementation shows enormous obstacles, both on the psycho-



logical as well as on the material plan. A very strong political will is necessary to overcome them. If such a will shall support the efforts of those who believe in Europe, the defense of the Old Continent – intended as a peace factor and not as an overwhelming and violent one – shall become a factive reality. On the contrary, it would be only a dream.

Vittorio Barbati

Notes

(1) Economic European Community; European Coal and Steel Community; European Atomic Energy Community.

(2) It seems necessary to remark that the WEU is formed by only seven members, whereas the Communities count

nowadays onto ten (and shall amount to twelve very soon). A probable integration of WEU within the Communities would arise, therefore, several problems.

(3) As already known, within confederal structures, the Confederation manages in a unitarian way only the foreign and the defense policies, leaving to the confederated states more or less broad margins of manoeuvre in all other fields. On the contrary, within federal structures, the Federation directs and controls, very often in a particularly sharp way, all the activities of the federated states: financial, monetary (budget planning and control, control of the financial intermediate means, fund management, etc.), economical (shares, enterprises management, public works, etc.), social (assistance, social security, etc.), judicial (civil and criminal law). Today, however, more than one confederal system tends to attribute – although substantially respecting local autonomies – more coordinating power to the central bodies.

(4) It is worth to note that, among the Chiefs of State of the communitarian member countries, only the President of the French Republic bears real responsibilities and political power.

SOLDIER WOMAN



The problem of the permanent use of women in "military" tasks has a long and continuous history. Of course, this continuity is more episodic than uniform and easily identified. The woman-soldier, the woman-warrior and the woman-legionnaire have appeared in history at irregular intervals only to return once again to the shadows for varying lengths of time that seem to depend on various factors. The first of these factors is now commonly defined as "loss of historical memory". That is, in the effort to reconstruct an entire and semi-concealed network of variously displayed "female" skills, equal attention could not be given to them all. One reason for this is that in each age, and therefore in each artistic, historical and literary period, certain issues are given priority over others. Consequently, although considerable research has been done on the artistic achievements of women throughout the centuries and on their daily behaviour in the home or the church, very little has been done to reconstruct the contribution women have made to the sector that could be defined as "military organization". Furthermore, for many centuries the main thrust of women's demands related to their unjust exclusion from the civilian professions, from the right to study and from public life in general. However, in the absence of a school system in any way like the modern one, the right to study merely amounted to general statements regarding women's intellectual capacity, which was in no way inferior to men's. Only in very rare cases was it of any use to the cause of sex equality to emphasize women's traditional "warlike" virtues. Only after the consolidation of a non-clerical state educational system was it possible for the generic "right to study" to be related to professional activities or actual jobs. The problem of women's permanent service in the armed forces for duties of a defensive or auxiliary type was of necessity "heteronomous" rather than autonomous for as long as it remained a mere appendix to the much wider claims being

advanced. Furthermore, it could not be given a final solution through institutions hallowed by time and tradition, such as the Military Academies or Colleges. Until the nineteenth century, the creation of women's fighting units was not so much the result of a process of emancipation whereby

episodes that are not however the rule or cannot be related back to the problem of women in the broad sense. For instance, F. De Roberto wrote an article for *Corriere della Sera* in 1910 entitled "The crisis in feminism", also commenting on a text by Baron Marc de Villiers, *Histoire des Clubs des*



non-conventional tasks were extended also to women, but rather a response to national crises: revolutions, uprisings and revolts. Those articles in the daily press dealing with the problem of training women's armed forces limit themselves to citing glorious

femmes et des "Légions d'Amazones" (1). As De Roberto informs us, the book tells of the three great crises in feminism in France over the last century: during the French revolution, in 1848, and during the Franco-Prussian War, all three of which

coincide with the creation of women's army corps on the initiative of the women themselves. "While a new era in the history of the world is opened by the declaration of the rights of man, the emancipated women of France demand that also those of women, of thirteen million slaves, should be proclaimed. What do they demand? They demand many things: to be ordained priests and to preach in church from the pulpit; they demand that also men be compelled to take wives without dowries and that a law should be passed conferring political rights on women over the age of twenty and depriving of them the men over forty". A group of women citizens of Clermont Ferrand make it known to the legislators that the time has passed when spinning was the only activity allowed them. The female inhabitants of Avallon solemnly declare that "while French women have so far only produced children, from this day on they will give birth to men. But these and other good intentions are not enough. Women must act like men and since the most resolute, manly and vigorous activity is war, they too want to fight" (2).

Théroigne de Méricourt founded the popular Club of armed women, a lady from Vingnerias wrote to the Assemblée in name of all those who were tired of working, obeying and keeping silent to ask them permission to set up a "vigilant militia". A petition was signed to demand that an army composed of ten thousand women and children be set up with the Aristophanes-like oath of "renouncing the seduction of love until fellow citizens have won their laurels of glory".

De Roberto wrote that the only difference between the old play and present reality was that Lisistrata made her companions take an oath of abstinence out of love for peace, not for war. Meanwhile, in the provinces, the female militias were being set up by the "capitaine" Darn, at Trie under the lady colonel Feurier, at Bordeaux they were already several thousand strong, and at Grenoble they had acquitted themselves



well in the uprising against the Vendéens. Madame De Moulins commanded the national guard of Mormant, and one hundred and twenty-seven women at Péruges below the age of 50 set up the guard of Bellona, the goddess of war. At Isle a company of Dames de St. Barbara was formed. In the

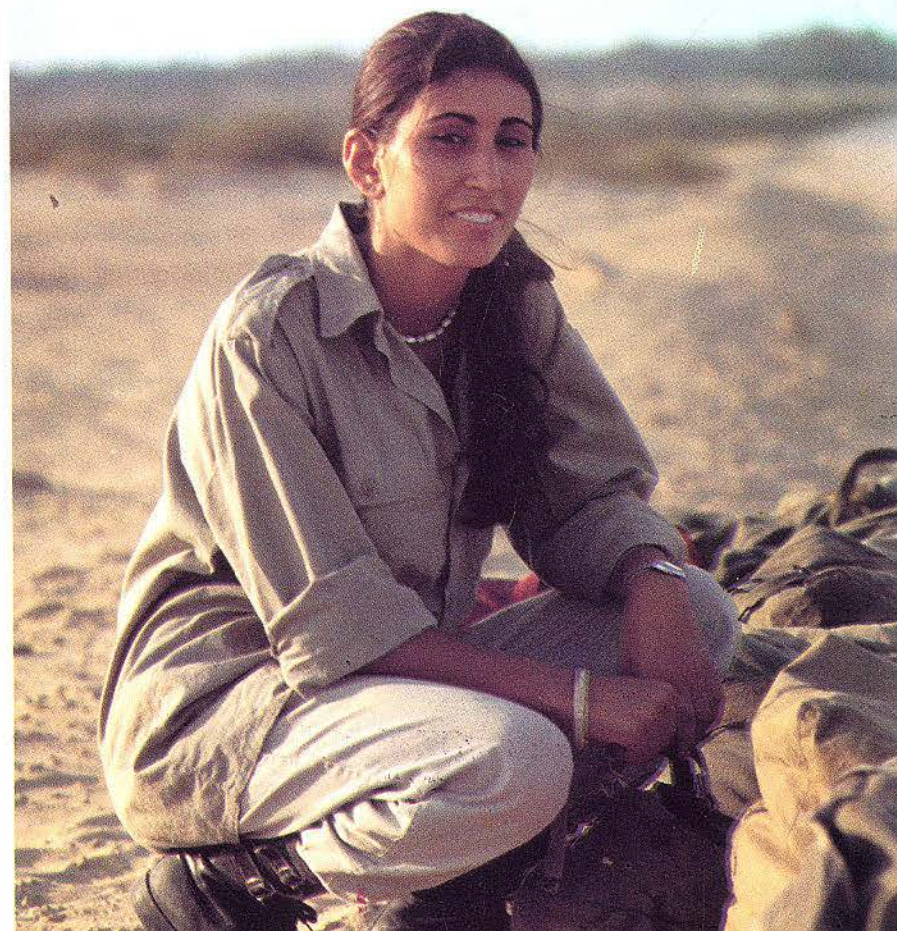
large cities, the revolutionary *citoyennes* of Clara Lacombe were agitating for the mobilization en masse of all female patriots between the ages of 18 and 50. Citoyenne Lecointre declared that women are not domestic animals and would form "a phalanx".

According to De Roberto, in



'48 we find a similar series of attempts to organize women's armies: one citizen suggested setting up the legion of the Vesuvianes, electing himself colonel, and hundreds of women joined up, "rebutting the witticism to which their volcanic name gave rise with the declaration that the burning lava would emancipate them". It was also demanded that a women's Guard unit be formed, open to all young women between the ages of 15 and 20, as well as of units in which husbands and wives would serve together. Nevertheless, while the more bellicose were set upon taking to arms, others declared that women must not become emancipated "by turning themselves into men, but rather emancipate men by turning them into women...". For a start, it was necessary to destroy the difference in the dress, without of course becoming indecent or ridiculous, "nor abandoning gracious forms and good taste". Dr Malatier proposed abolishing the corset, considered an instrument of deceit. *La Voix des Femmes* advised its readers to wear men's caps perched on the top of the head, like men. "Cut your hair, and it will become stronger...". The Vesuvianes insisted on all men being obliged not only to marry, but also to remarry if necessary. The women of the Fraternal Society of the two Sexes of the first revolution swore that they would die spinsters rather than marry aristocrats, while the numbers of the New Woman now pledged themselves to refusing as husband any man not willing to share with them "the regiment of the state". The provisional government was asked to extend voting rights to unmarried women who had come of age. The wives, like slaves, were evidently not allowed to express their opinions freely.

About twenty years later the country suffered foreign invasion. Félice Belly, during the siege of Paris, announced that thirty thousand women would flock to the flag because "they love the martial apparatus and have an instinct for war, for ambushes". One thousand five hundred women enlisted





in the battalion of the Amazons of the Seine and Louise Michel, together with Madame Léo, would have set off to liberate Strasbourg if only the government had not had her arrested. As a result of the proposal to arm women, a "weapon" known as "God's Finger" or the "prussic thimble", designed to prevent them being raped by the enemy, was presented to the members of a women's club. This device consisted of a rubber cube worn on the finger and filled with prussic acid. One touch of it would be enough to lay the Prussian out cold. But – wrote De Roberto – "the setting up of the Amazons, of the female marines, of the Deathshead Carabineers, together with the foundation of the women's clubs, the chairwomen of which wore pistols at their belts..., did not stop the leaders of the revolution, who were for a short time happy to receive the women's aid, from ultimately getting rid of them". Robespierre made use of the revolutionary *citoyennes* for as long they worked towards the fall and suppression of the Girondins, although he subsequently admitted that the rallies of Sansculottes

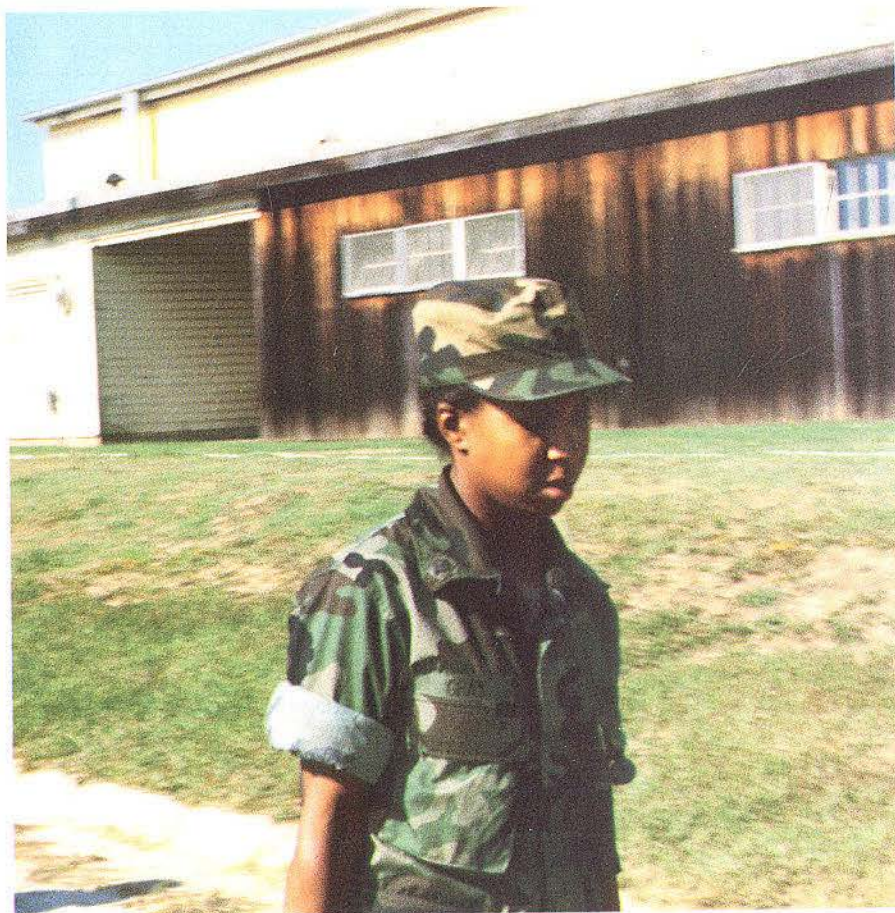
could no longer be countenanced "as they were too ridiculous and gave cause for gossip". After having tolerated the women, the Jacobins then betrayed them. The National Convention went even further and banned all forms of women's associations (3).

Donna Paola, a well-known writer and journalist, and a contemporary of De Roberto, whose real name was P. Baronchelli Grosson, wrote in *La scena illustrata*, again in 1910, about the "military" habits of the queen of Prussia, Victoria, and of the Kronprinzessin Cecilia. "On more than one occasion the Kaiserin has appeared on the parade grounds of her country and also in the illustrated magazines of five continents wearing the uniform of Colonel of the Hussars... Who says that a woman be a bad mother simply because she is capable of holding a sabre in her hand and of using the cutting edge against her country's enemies?

It must not be thought that this evocative image of the woman soldier, this twentieth-century amazon, is a historical novelty, one of those strange things concocted by Chance to amuse contemporary society" (4).

In Donna Paola's view, there were woman warriors in all ages. With the intention of establishing a line of historical continuity, she begins by citing the legendary Amazons and the Hierodules, the ministers of the temple of the warrior goddesses like Artemides and Athaena. "But without getting involved in the uncertainties of the fairy tales", the journalist went on, "the stories of our times show us striking examples of women who succeeded in overcoming their timid nature and who put on warlike dress and fought and died for an ideal, which was often inseparable from the good of the country. Let us not speak of Joan of Arc... let us instead think of lesser known women, who did not

have the good fortune to be raised to such lofty heights and yet did well by their country and were an honour to womanhood" (5). One of the best soldiers in the army of the first French Republic was a woman, the widow Brulon. The daughter, sister and wife of soldiers killed on active service, she joined the army immediately after her husband's death. She displayed great courage at the siege of Calvi, in Corsica. She remained in the active army for seven years - from 1792 to 1798 - serving in seven campaigns under the name of Liberté and reaching the rank of sergeant-major. After being wounded by a bomb splinter in her left leg she resigned from active duty and was decorated with the Légion d'Honneur on the recommendation of Marshal Jérôme Bonaparte. However, the tradition of the woman soldier was destined to reappear in a kind of golden age during the Napoleonic era. At the time of the Corsican, hundreds of soldiers' wives accompanied their husbands through the horrors and dangers of war. The "générales" also had their moment of glory and shared the honours with their husbands. The "générale" Verdier, for instance, took her place in the first line of a defensive square in Egypt; during a withdrawal she found herself in the rearguard and was able to save a number of wounded by loading them on to her horse. Also Augeron, Ney, Lasalle and Bernadotte went on their campaigns with their warrior wives beside them. Napoleon envied them their good fortune. Since Josephine, a fearful and elegant woman, refused to accompany him amid the hardships of the battlefield, Bonaparte had no scruples about taking with him Madame Fourès, who used to go into battle beside her husband, a captain. In the war of Spain the Napoleon's women soldiers covered themselves in glory, especially Madame Sans-Gêne and Virginie Guescuière, known as "le beau sergent" and who was awarded the Légion d'Honneur. The story of this brave woman is extraordinary. Since her brother, who had been called up,





was weak and sickly, and not strong enough to march, Virginia dressed up in man's clothing and reported to the regiment in his place. At the battle of Wagram she saved the life of a captain and won her sergeant's stripes. At Lisbon she saved her own colonel, who was surrounded by the enemy, receiving a bullet wound in a shoulder and a bayonet wound in one side. Not even during her long stay in hospital was her true sex discovered. Again wounded in the abdomen at Burgos, she stubbornly refused to be operated on, in order not to give herself away. However, the surgeon made use of drugs... Another romantic story is that of Dr James Barry, the inspector general of the military medical corps, who died on July 15th 1865 and whose grave can still be seen in the London cemetery of Kensal Green. Only after "his" death was it discovered that General Barry of the medical corps was actually a woman and had never graduated from medical school. The fact that she was a woman had been discovered

several years before by Colonel Wilson and a medical officer, but she had sworn them to secrecy. It is not known exactly who she was, although she was treated with such respect in high quarters that it is quite possible that her secret was already known. Barry not only had been appointed military surgeon without having done the necessary studies, but had also received very rapid promotion, skipping the intermediate ranks and going straight to the top of the ladder. An even stranger case is that of another woman who dressed up as an officer and practised as a military doctor. Her name was Mailed and she lived until the mid nineteenth century. "She succeeded in joining the British Indian Army", wrote Donna Paola, "and served in it for many years. Her colleagues made fun of her because of her effeminate ways, but she never answered them, so as not to give herself away. The only time she lost her patience she challenged the lieutenant who had insulted her to a duel and shot him dead"

(6). The conclusion drawn by Baronchelli (whose pseudonym was Donna Paola) is somewhat pessimistic. She ends her survey of famous women soldiers by saying that it is still too early for women to succeed in giving up their beauty and seductive powers, which they consider to be their greatest talents. "It is perhaps for this reason that the woman soldier will not engage in propaganda among her companions of the same sex. She may well be a parade soldier, but to be really serious requires a greater spirit of sacrifice than perhaps our dear little women can muster" (7).

In more recent times, the Chief of the Defence General Staff has instructed the Centre for High Defence Studies to examine the problem of introducing a women's military service into Italy with special reference to the law n. 66 of 1st February 1963. This law, by opening up all public posts to women without imposing limitations on their duties or careers, also provides for their enlistment in the

WOMEN'S MILITARY SERVICE IN THE WORLD

CHARACTERISTICS OF THE SYSTEM						
COUNTRY	SINCE	SERVICES	SECTORS OF EMPLOYMENT	CATEGORIES OF EMPLOYMENT	AGE OF RECRUITMENT	TRAINING COMPARED WITH MALE PERSONNEL
NATO COUNTRIES						
BELGIUM	1972	3 services	All, except unhealthy and dangerous ones (1)	Offs., NCOs, ORs	17 years	Similar
CANADA	1971	3 services	Administration, Medical, Communications, Services	Offs., NCOs, ORs	17 years	Similar
DENMARK	1971	3 services National Guard	Administration, Services	Offs., NCOs, ORs	16 years	Similar
FRANCE	1972	3 services	Administration, Supplies, Technical Services, Medical	Offs., NCOs, ORs	18 years	Similar
WEST GERMANY	1975	3 services	Medical	Offs.	Not over 40 years 40 years	Similar
UNITED KINGDOM		3 services	Administration, Medical, Signals, HQ Services	Offs., NCOs, ORs	17 years	Offs. 9 wks non-grads 8 mths NCOs & ORs 6 wks
GREECE	1978	3 services	Administration, Services, Logistics	Offs., NCOs, ORs	20 years	5-6 weeks
NORWAY	1977	3 services	Non-combat	Offs., ORs		Offs. similar-ORs 6 months
HOLLAND	1972-79 (3)	3 services	Non-combat	Offs., NCOs, Corporals	17 years	Similar
USA	1942-78 (3)	3 services	1942: Medical, Administration; 1978: Various Branches and Services (excluding combat)	Offs., NCOs, ORs	17 years	Similar
WARSAW PACT COUNTRIES						
USSR	1967	3 services	Medical, Communications, Air Defence, Repair work	Offs., NCOs,	19 years	
CZECHOSLOVAKIA			Administration, Signals, HQ Services	NCOs, ORs	19 years	1 year course
POLAND	1967	3 services (4)	Signals, Medical, Civil Defence		18 years	Similar
ROMANIA	1973	3 services Patriotic Guards	Medical, HQ Services	Offs., NCOs, ORs	18 years	Offs., NCOs 4-6 months Three days a week
OTHER COUNTRIES						
ARGENTINA	1977	3 services	Nursing, Military Police, Air Force		18 years	
EGYPT			Medical, Miscellaneous Services	NCOs	18 years	3 month course
ETHIOPIA	1973	3 services People's Militia	Medical, Administration, Telecommunications	Offs., NCOs, ORs	17 years	
YUGOSLAVIA	1974 (3) 1980 (5)	3 services Territ. Defence			19 years	Probably reduced
SOMALIA		3 services	Medical, Administration	Offs., NCOs, ORs	20 years	Similar
SWEDEN	1978	Air Force (planned for 3 services)	Communications, Technical Services Air Surveillance	Offs.	18 years	Similar
SWITZERLAND	1940	Independent corps, later assigned to Armed Forces	Administration, Signals, Supplies, Posts and telegraphs	Offs., NCOs, ORs	18 years	Basic 27 day course
TUNISIA		Army	Medical, Administration, Signal, Informatics	NCOs		Similar
COUNTRIES WITH COMPULSORY WOMEN'S MILITARY SERVICE						
CHINA		3 services	Medical, Signals, Mapping, Miscellaneous services	Offs., NCOs, ORs	18 years	Similar
ISRAEL	1959	3 services	All	Offs., NCOs, ORs	18 years	Basic 4 wk training

- (1) Sectors of employment decided by Sovereign
 (2) Already medical graduates
 (3) Date of initial use of female personnel and the promulgation of last regulatory legislation
 (4) There are currently no women on active duty
 (5) New law being implemented

Armed Forces. The procedures for implementing this law were further defined by a joint forces working group which adopted the solution envisaging the setting up of a single interservice women's corps. The careers and personnel were to be limited and separate from those of the men. The corps itself was to come under the command of the Chief of the Defence General Staff and have duties in the medical, technical, administrative and communications sectors.

Between 1974 and 1980 numerous draft bills on women's military services were presented. In April '74, Sen. Spora presented a draft bill providing for the creation of a women's voluntary service. This was followed in June of the same year by a draft by the Rt. Hon. Messeni Nemagna.

During the seventh legislature three draft bills were presented: by the Rt. Hon Preti, in December 1976, by the Rt. Hon. Miceli and others in June 1977 and by the Rt. Hon. Accame in February 1979.

Finally, during the eighth legislature a draft bill has been

presented by the Rt. Hon. Accame (Regulation of women's voluntary military service), by the Rt. Hon. Miceli, in June 1979, by the Rt. Hon. Tassone on the new provisions governing compulsory military service and by Sen. Crollanza in March 1980.

The problem of women doing military service seems to have been launched towards its final solution by the contents of the draft bill presented to the Council of Ministers by the Minister of Defence, Lagorio, in 1980. The main points of the draft bill may be summed up as follows: voluntary recruiting of officers, NCOs and other ranks on permanent service; the use of women soldiers in all sectors, except in actual fighting units; the same career structure as for men; slight modifications to the juridical status to accommodate the female condition; the same pay, health care and social security for both sexes.

SOLDIER WOMAN



Fiorenza Taricone

Fiorenza Taricone is a graduate in philosophy and letters and has done further studies in modern history at the University of Rome. She is a student of women's history and has written articles, essays and a book entitled "La condizione della donna nel XVII e XVIII secolo" (The condition of women in the 17th and 18th centuries). She has written another book, about to go to press, on the women of the nineteenth century. This book also deals with aspects of women's action in the various civilian and military sectors of the state.

Notes

(1) The text by De Villiers is extensively quoted also by Raymond Caire in his recent book *La femme militaire des origines a nos jours*, Paris, 1981.

(2) De Roberto *La crisi del femminismo*, on *Corriere della Sera*, 20 Oct. 1910.

(3) Ibidem. The fascination of women warriors, whether the Greek Amazons or the Latin virgins has never ceased to exert its seductive power both in times when women are demanding more freedom and in those when they seem to acritically accept the roles imposed by tradition or custom. Another newspaper article, this time on the *Giornale d'Italia* of August 1910, shows how an archaeological find made at Belmonte of two tombs of women warriors immediately leads to an association of ideas between them and the virgin Camilla, the queen of the Volsci sung by Virgil. The article, signed by "an archaeophile", relates that the virgin Camilla is no longer a "poetic image of Virgil, but historic reality... and just as the richest sepulchre recalls Camilla, so the nearby tomb perhaps refers to her comrades" *comites lectae pacisque bonas bellicae ministras*, i.e. Lavinia, Tullia and Tarpaeia". Il *Giornale d'Italia*, Scoperta di due tombe di amazzoni a Belmonte, 1st August 1910.

(4) Donna Paola *La Scena Illustrata*, 1st December 1910.

(5) Ibidem.

(6) Ibidem.

(7) Ibidem.



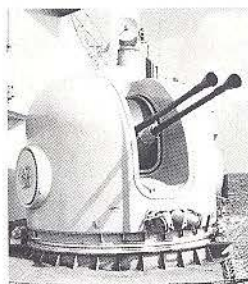


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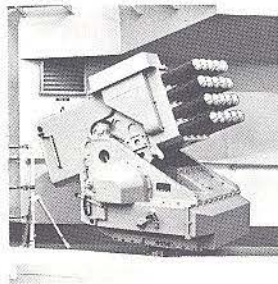
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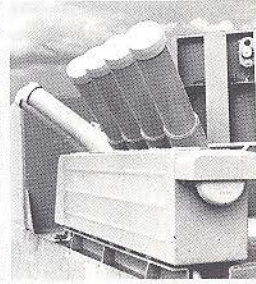
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MODULAR LASER SIGHT

Selenia has developed a new Modular Laser Sight.

The MLS-6 is the basic module of an integrated Day/Night laser periscope.

The combined use of the MLS-6 with the standard I² night elbow or the recently developed passive IR elbows results in an integrated set which can be fitted to most of the head mount assemblies (from the standard M32 Sight

to the most advanced stabilized head mirror units).

The design modularity caters for installation in the largest variety of tanks and armoured vehicles without structural reworks. The light weight and common aperture concept lead also to field applications such as for batterfield surveillance and artillery forward observes, both on a tripod and on Remotely

Piloted Vehicles.

The basic configuration of MLS-6 contains a Laser Visual Unit (LVU) and a Laser Electronic Unit (LEU).

Interface material for integration with the chosen FCS or data link is part of the equipment.

The LVU directly fits the periscope type M32/M35 and may be mounted in lieu of the existing M32/M35 day channel at field level. The line of sight is boresighted by means of easily accessible wedges.

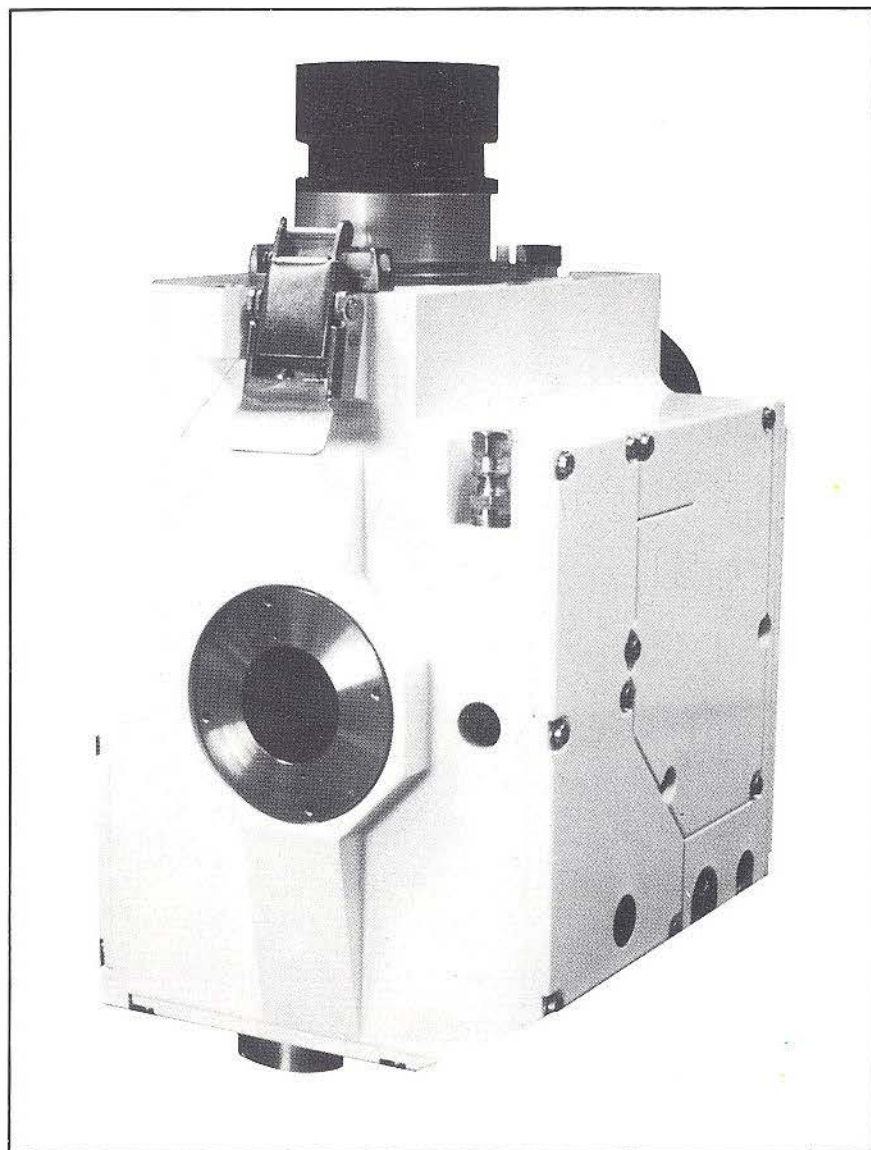
For different installations, a 4 cm optical aperture and an attachment plate are the only mechanical requirements.

The electrical interface with an electronic FCS is implemented through optically coupled isolators. The interface with a mechanical FCS is implemented through a servo unit.

The adoption of a mini-laser transmitter and of a common aperture concept, permitting the laser pulse, the return signal and the overall daylight scene to pass through the same aperture, has led to an extremely compact system.

The resulting small volume and light weight are a premium for installation into armoured vehicle turrets and RPVs.

Internal boresighting facilities, provisions for integration with I² and passive IR night elbows, internal generation of muzzle reference reticle, accessibility for injection of CRT or RPU generated symbols and mark, are the most outstanding features of the equipment.





AIR CARGO DELIVERY SYSTEMS

Irvin Systems s.p.a. designs and manufactures a wide range of air cargo freight and parachute delivery systems, including equipment for specialised packaging, handling, air cargo dropping and air freight delivery.

"IRVINGLIDE" AIR-CARGO GROUND HANDLING SYSTEM

The "Irvinglide" system is designed specifically for the efficient ground handling and loading of air-cargo and is already being used in conjunction with the Lockheed C-130 Hercules aircraft. The system is mobile and flexible and can be added to, or configured for, any shape of warehouse. It has the capability of transferring pallets, or shutting them between docks for staging, so that they go to the aircraft in preplanned order to provide correct aircraft loading trim.

Main features of the system are: platform height of 42 in (1070 mm nominal) from ground to roller, loading at 90 degrees to the aircraft fuselage centre line, portable warehouse dock roller platform system, USAAF specification trailer beds, Aircraft door cradle and Multi-station.

The "Irvinglide" system is designed to be operated manually and does not require the use of forklift loaders.

CONTAINER DELIVERY SYSTEM (CDS)

Irvin systems manufactures also a full range of parachute systems designed for dropping load units of up to 2,500 lb (1,100 kg nominal) from altitudes of between 1,000 and 1,500 feet (300-450 m) above a dropping zone.

Operation of the system is initiated by putting the aircraft

into a climbing attitude, to allow the load to move rearwards under the influence of gravity and be released. The system is capable of dropping loads singly or in controlled multiple sequence.

For a typical air-drop operation the aircraft is equipped with a special load restraint (buffer-stop) system to prevent forward movement of the load in the event of violent deceleration of the aircraft.

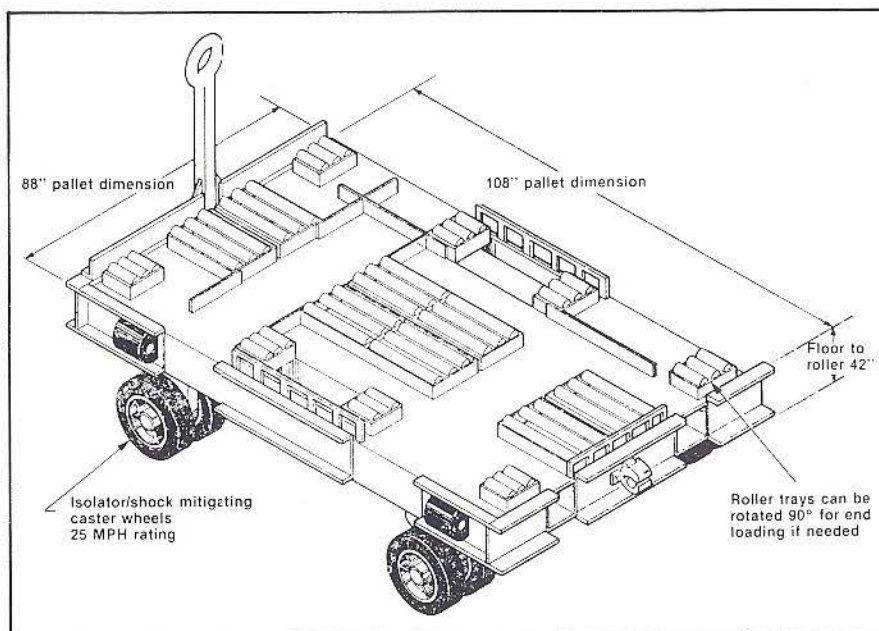
The Irvin CDS system comprises: Parachute (s), load units, nets, straps and harnesses, and release equipment as applicable and in-flight restraint (buffer-stop) system.

PLATFORM AIR-DELIVERY SYSTEM (PLADS)

The PLADS system is designed for parachuting loads secured to stressed multi-modular platforms from altitudes of between 1,000 and 1,500 feet (300-450 m. nominal) above a dropping zone.

Maximum all-up weight that can be dropped is normally 37,400 lb (17,000 kg nominal), however, provided the aircraft has sufficient hold capacity and structural and operational limitations permit, heavier loads can be carried but require additional or stronger materials to be used for load securing, the extraction parachute system and the risers of the main parachute clusters.

Operation of the system is initiated by the release of an extractor parachute which in turn withdraws the load from the



IRVINGLIDE RAMP EQUIPMENT 42 INCH TRAILER



aircraft. As the load falls away, the main parachute system is deployed by means of a static line. The size and number of main parachutes and the size of the extractor parachute is determined the weight of the load being dropped.

Main components of the PLADS system are:

- Stressed multi-modular platform: 88" or 108" inch gauge width. (These can be supplied in two versions: light – IMI 6.5.1/2 or heavy – IS 6.5.3/4 –). Other platforms may be used provided they are compatible with the aircraft deck;
- nets, straps and harnesses, and release equipment, as applicable;
- parachute, extractor, IMI 1.10.4, or others, as applicable;
- parachute, main, IMI 1.2.15, or others, as applicable.

LOW-ALTITUDE PARACHUTE EXTRACTION SYSTEM (LAPES)

The LAPES system is designed to withdraw load units, by means of extractor parachutes, from aircraft flying 5–10 feet (1.5–3.0 m. nominal) above ground level.

Maximum all-up of a load



unit is normally 34,000 lb (15,400 Kg), however, heavier loads can be carried, subject to aircraft capability.

The load is secured to a heavy duty metal platform and dependant upon operational requirements, load units can be despatched from the aircraft singly or in controlled multiple sequence.

Operation of the system is initiated by release of a drogue parachute. The drogue parachute effects deployment of the extractor parachute which in turn withdraws the load unit from the aircraft.

Main components of the LAPES system are:

- electro-hydraulic drogue release and air-drop sequence

control system (tow plate) I.S. 11.5.1 (A/B);

- stressed multi-modular platform: 88 or 108 inch gauge width, complete of accesories for attitude control and multi platform air-drop. Other platforms may be used provided they are compatible with the aircraft deck;
- nets, straps and harnesses, and release equipment, as applicable;
- parachute drogue: IMI 1.10.5, IM 1.10.4, or other, as applicable;
- parachute, extractor: 15,22,28 feet diameter, as applicable.





25 MM AUTOMATIC CANNON TYPE KBA

The Oerlikon KBA cannon is a 25 mm calibre cannon which fires the NATO standardized 25 mm ammunition.

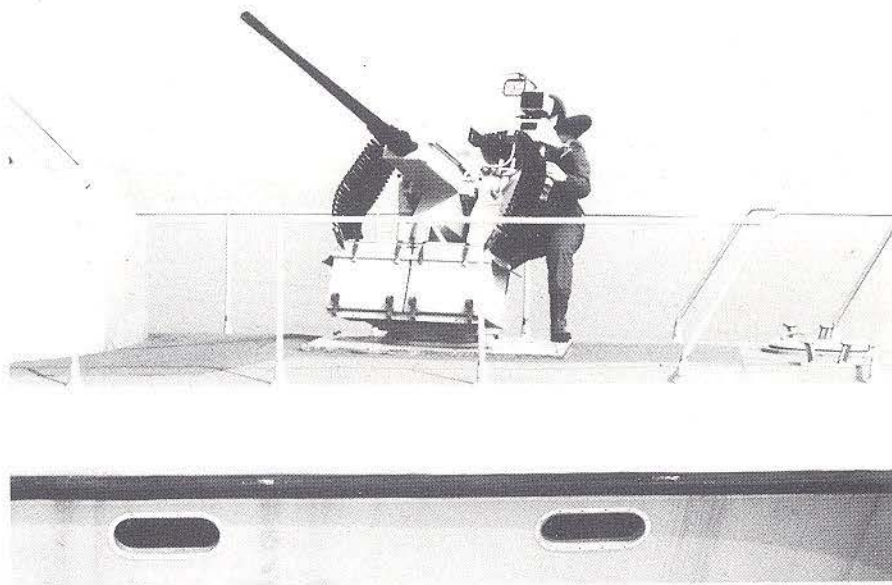
The KBA cannon has a range of applications as naval armament, for air defence purposes, as vehicle armament and as helicopter armament.

The rate of fire, weight, size and low recoil force give this cannon good versatility.

Many KBA cannons are already in service, mainly in NATO countries.

The 25 mm KBA cannon is a positively locked gas-operated gun with a rotating bolt head and percussion firing.

Fig. 1



sea mines
land mines
scattering systems
coastal defence systems

MISAR spa

via brescia, 39-41
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MISAR



The dual ammunition feed enables an immediate selection of either of two ammunition types with first round response.

The ammunition is belted. For its cannons Oerlikon has developed and produces the appropriate ammunition types TP-T, HEI-T, SAPHEI-T and APDS-T.

The typical KBA installations are GBM-A01 naval gun mounting (fig. 1), "Diana" twin field AA gun, turrets types "Madis" (fig. 2) and T25 and the heli-borne system type GBH-A01 (fig. 3).

TECHNICAL DATA

Calibre	25mm
Rate of fire	600 rounds/min.
Muzzle velocity v_0	110-1335 m/s
Mass of complete cannon ready for integration	112 Kg

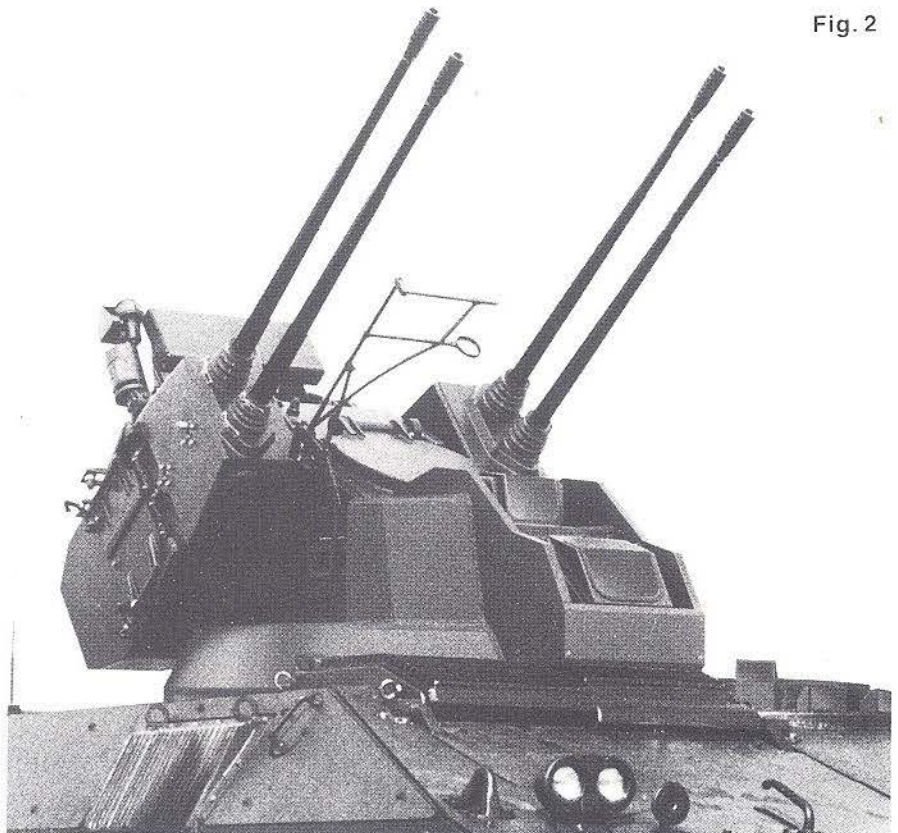


Fig. 2



Fig. 3

HYDRO-CLEANERS AND HYDRO-SANDBLASTERS

Hydro-cleaners and hydro-sandblasters by Cristianini can be used for cleaning, paint removal, descaling, rust and oxide removal for intensive maintenance both in the plant and in centralized Workshops, or in places where quick and efficient work is required.

Thanks to the vast range of accessories, such as lance and nozzles, special heads for the indise cleaning of pipes, tanks, etc., any requirement of cleaning, sandblasting and sanification may be met with. In the Armed Forces, where very modern equipment is employed almost everywhere, a large quantity of combat and transportation equipment is used. This kind of equipment must necessarily be extremely reliable, which requires a very intensive maintenance programme. The use of high pressure water cleaners, allows for the precision cleaning of all military equipment such as jeeps and trucks, aeroplanes, helicopters, boats, kitchen equipment, deposits, parabolic antennae, etc. Such intensive cleaning not only increases the life of paint and other coatings, but also allows for the early detection of corrosion, damage and fuel or oil leakage, as well as for their immediate repair. Hot water cleaners, which are provided with an independent boiler and fuel burner, can be used for the removal of grease deposits and food wastes, as well as for sanitizing and emptying war surplus devices of their explosive contents thanks to the extensive water heating possibilities (248° F). Trailer-mounted units, which function with either hot or cold





water, are provided with their own diesel fuel motor and self-feeding pump, and are therefore able to operate independently in places which are difficult to reach, or where water and power supply cannot be guaranteed. Thanks to the possibilities of suction and injection of any kind of chemical product together with the jet of water, high pressure water cleaners can be effectively employed in disinfection, sanitation, etc. All high pressure water cleaners can be transformed into highly effective hydro-sandblasters by mounting a very practical accessory for hydro-sandblasting: sand and water ejected together against the surface to be treated, thus removing paint or surface coating.



THE PALMARIA 155/41 SELF-PROPELLED HOWITZER



Automatic projectile loading,
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angle ($-5^{\circ}+70^{\circ}$), HE, R.A.P.,
illuminating and smoke projectiles.

Combat weight: 46 ton
Engine: 750 HP
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Cruising range: 400 km.



OTO MELARA Via Valdicocchi, 15 - La Spezia (Italy) - Tel. (0187) 530.111 - Tx. 270368-211101 OTO I



J. Alford: "Greece and Turkey. Adversity in the Alliance" International Institute for Strategic Studies, London, 1984, pp. 151, L.2,90.

The unity of NATO in the eastern Mediterranean has been put into question by the adversary relationship between Turkey and Greece. The disaccord between these two nations has deep historical roots; it regards an essential problem for both states — sovereignty and freedom of the seas in the Aegean — and it could have repercussions for the strategic equation of the entire Mediterranean. The problem is complicated by the domestic instability of both states.

Greece in particular considers Turkey a greater threat to its own security than the Soviet Union. This explains the current attitude towards the USA on the part of the Greek government which has taken a hard line, actually subordinating its NATO membership and acceptance of American guarantees against the Warsaw Pact threat to western support in its relationship with Turkey. How far is Greece prepared to carry this line? It is difficult to say. The fact is, Greece cannot do without western support. Still, complicated and unstable domestic political issues come into play which can have a decisive effect on foreign policy.

Turkish concerns are altogether different. Turkey does not consider Greece a threat to its security. Still, it finds itself in a position similar to that of the German Federal Republic as regards its relations with the USSR. It has a common border with the Soviet Union and its foreign policy has occasionally given signs of neutralist leanings. Like West Germany, it has often looked at détente not only as a way of establishing more normal relations with the USSR, but also as a means of enlarging its own field of action, even in its dealings with the Islamic

world.

Factors favourable to the continued unity of the Alliance in the eastern Mediterranean include a strong sense on the parts of both Greece and Turkey of belonging to Europe, and above all their mutual need for cooperation, along with the necessity of obtaining economic and military aid from the West.

In any case, the problem is a crucial one for NATO, not only because Greece and Turkey block Soviet access to the Mediterranean, but also because of Turkey's greatly increased importance in light of a possible United States intervention in the Gulf area.

Julien Freund: "Sociologie du Conflit" (Sociology of Conflict), Presses Universitaires de France, Parigi, 1983, pp. 380, FF. 160.

Conflicts constitute one of the fundamental phenomena of any society. As such, their study should constitute one of the central points of sociology. Modern societies, whether they be democratic or totalitarian, are extremely complex structures. Especially in democratic societies, conflict is continuous due to the pluralism of values and ideologies. In totalitarian societies conflict is absent only in appearance because the authority in power has succeeded in repressing all forms of open opposition.

It is through conflict that societies find their balance and continue their development in both foreign and domestic affairs. The two aspects are intimately connected. J. Freund gives his complete endorsement to the theory of C. Schmidt establishing the central position of the "friend-enemy" relationship as the essence of politics. He both develops and completes it with a more general vision of the role conflicts play in society, their origins, their

contents, the difference between conflicts and games, crises and dialectics, the significance of peace and the relationship between conflicts and law.

A large part of this well-known French sociologist's investigation deals specifically with military conflicts, inasmuch as these are the best known and most widely studied. But his examination and considerations can be generalized to cover any type of conflict, whether economic or ideological, political or commercial.

Of particular interest are the sections dedicated to strategy, tactics, and the limits of rationality. As regards strategy, the author declares himself to be in agreement with the theses of R. Aron, themselves derived from the teachings of the School of Clausewitz.

In practice, however, he tends to stray from those theories. Strategy becomes completely incorporated into politics ("Strategy is first and foremost the sum total of long term objectives taken together with the historic universe which makes the intelligent decision possible") or it gets reduced to a simple vision of the operation taken as a whole, that is, to its purely operational dimension. In such a case it might make more sense to stop speaking of "Strategy", and to begin using the term "Grand Tactics", inasmuch as tactics are directly related to the employment of means. At a certain point this somewhat exceptional view leads J. Freund to affirm that in operations of limited scope, conduct is a matter of tactics independent of any strategy. This affirmation appears rather questionable as even in the case of an extremely limited use of force there must exist a strategic objective derived from a political end and combined with a conception of the whole which integrates the individual tactical operation with the general strategic action.

Of much greater interest are



the considerations of Freund on the limits of rationality in conflicts. Above all it is necessary to distinguish between rationality of conflict and rationality in conflict. The first can be investigated only in the context of a philosophical and ideological conception of the world. It is therefore a pseudo-problem which can have no answers because these would have to be based on axioms which are by definition a-rational (and not irrational, which is something else altogether). The utilitarian concept of rationality has precise limits in that it presupposes the availability of perfect, exhaustive data and a identical system of evaluation and values for each of the two adversaries. In conflicts coincidence, chance, and passion all play their parts. Any method attempting to rationalize these factors would amount to a digression bordering on the irrational. The concept of rationality in conflict can never be an absolute. It can only be a limited concept relating to the coherence of contingent actions carried out according to the original decisions and values. It consists definitively in the maintenance of the instrumentality of the means with respect to the ends. And it calls for a precise perception and acceptance of "the irrational side of rationality", so as not to harbour false expectations of what it can actually express in a situation of conflict where fundamental interests are coming into play, in particular the internal power of entire political élites.

W. O'Brien: "The Conduct of Just and Limited War".
Praeger, New York, 1981, pp.
495, \$ 43.95.

The moral problems connected with war constitute one of the foremost issues of the day. In the past, most debates on the subject have taken place in the evangelical churches. Now, however, they

have also reached a position of importance in the Catholic church, especially in the United States. Particular attention has been given to the traditional doctrine of the just war, derived from the Augustinian-Thomist tradition and already relegated to implicit retirement following the Second Vatican Council's Encyclical "Gaudium et Spes" and the messages delivered by Popes Paul VI and John Paul II before the U.N. General Assembly's special sessions on disarmament, messages which virtually limited the concept of a just war to the right of legitimate self-defence.

These debates cannot be ignored or considered only perfunctorily as if they were nothing more than abstract disquisitions far removed from reality. The fact is that in the democratic countries they have a profound impact on public opinion. They therefore influence the degree of acceptability and consensus which defence policy must receive to be credible and valid. They also express ethical principles which must be kept in mind, and they furthermore constitute an essential component of the values of western civilization, values which the Atlantic Alliance is called upon to defend.

In his monumental treatise, Professor O'Brien of Georgetown University sets out to reconcile the moral principles with political realism and strategic rationality. His essential point is the substantial convergence of the limited war theories with those of the just war and ethical foundations of strategy, particularly in relation to nuclear arms. The concept of just war and the concept of limited war are both founded on the principle that presupposes a proportionality between the use of military force and the objectives it proposes to reach. Beyond this, they are based on two differing approaches. The first, an ethical-moral formulation; the second on a political and strategic

formulation.

The problem is not a new one. The principle of military force being justifiable only in certain circumstances was also present in classical culture. In the first place, war was to be entered into only for reasonable motives. In the second place, the military operations were to be carried out in such a way that the sum total of the violence used was proportionate to the objectives, and limited solely to the scope of military necessity. The Christian doctrine on war had substantially incorporated this formulation. It has also been the inspiration for all of international law and, in its substance, the strategic thinking according to which combat violence should always be limited by political objectives and by a rational calculation of the relationship between ends and means, benefits and costs.

Therefore the contrast between the just war theory and the theory of limited war is found not so much in the concept of proportionality, which is included in both, as in the distinction between combatants and non-combatants. This distinction assumes a more absolute significance for the theoreticians of the just war; for those theorizing a limited war, the difference is a more contingent one, conditioned by actual circumstances and taking into account the realities of the operational situations and the practical impossibility of avoiding collateral damage to the civilian population and the environment. The advent of nuclear arms, and even before that the Douhetian theories of domination in the air do not substantially modify the terms of the question. They only add new dimensions to the problems of proportionality and distinction. Most obviously from an ethical standpoint but, after some careful thought, also for political reasons, an unlimited war of mutual destruction has absolutely no justification when entered into



deliberately. But the option of threatening "second strike" and "anti-resource" retaliations is a different matter. Naturally, between an "anti-city" strategy and an "anti-personnel" strategy the second is easily the more justifiable, both from an ethical and a strategic point of view. Not surprisingly, Professor O'Brien is a convinced supporter of the new American "countervailing strategy" (codified under PD 59) as opposed to the previous strategy, MAD (Mutual Assured Destruction). Also of interest is the approach used to justify nuclear "first use", the foundation of the American guarantee to Europe, and the transposition of the nuclear deterrent's intrinsic stability to the conventional level. The cause of morality is not well served by abandoning a strategic structure whose deterrent power is stable for another which might one day contain destabilizing tendencies.

G. Treverton: "Crisis Management and the Super-Powers in the Middle East". Ed. Gower, London, pp. 183, £. 8.65

This volume contains a series of essays on the Middle East, an area which in the second post-war period has constituted one of the world's principal trouble spots. The first part of the volume illustrates the Arab-Israeli conflict, its implications, and possibilities for future evolution. The second part analyses the politics of the super-powers and the procedures they have used in managing the various crises which keep striking the region, sometimes bringing them to the edge of a direct confrontation. The final part of the volume examines the repercussions of the Iranian revolution, the Palestinian problem, and the change in relations between Egypt and Israel. Behind all these facts one can manage to see a vast and complicated network of interests, relations, and influences coming from both the USA and the USSR.

The Middle Eastern conflict has taken on a character and an importance of global significance, becoming much more than a struggle of merely regional interest ever since, at the beginning of the 50's, the Soviet Union was able to establish itself in the Arab world, and especially in Egypt, thanks to the outcome of the first Arab-Israeli conflict.

The Soviet penetration reached its height in 1967 and was offset by the unconditional support that Israel received from the United States. The results of the 1956 and 1967 conflicts demonstrated to the Arabs that Soviet aid would not allow them to obtain a victory, but merely a political neutralization of Israel's military victories. After 1967 in order to oppose the Soviet presence, the USA undertook various peace initiatives which stretched out over the period of the so-called Canal War, a war of attrition which developed from 1967 to 1973 and culminated in the Egyptian attack of October 1973. This last event brought a number of different factors to light. First: the failure of American policy up to that point to solve the crisis. Second: Israel's military vulnerability. Third: the extension of the conflict to the Persian Gulf states, which in the past had played a substantially marginal role. The oil embargo which followed clearly demonstrated the dramatic dependence, and therefore the vulnerability, of the West as far as the shipments coming from these countries were concerned. Fourth: Egypt's definitive acceptance of the fact that complete dependence on the USSR would not allow her to reach the political goals she had set herself. All these factors gave new space and momentum to the American initiatives. There were some concrete results, as in the case of the Sinai accords. This was only a limited success given the difficulties encountered by the United States in bringing pressure to bear on Israel. The stalemate was overcome by Sadat's attempt

to negotiate direct accords with the Jewish state during his historic visit to Jerusalem in 1977 and by the Camp David accords at the end of 1978. The Iranian revolution, however, established a new instability in the Middle Eastern picture, adding itself to the unsolved Palestinian problem. For the USSR, which had seemed to be shut out of the area, new possibilities for action suddenly opened up. In concrete terms, these will not go away until the Palestinian problem is resolved, making it possible to forge an Arab-Israeli peace agreement which is also acceptable to the moderate Arab states, and first among these, to Saudi Arabia.

In short, the Middle East is a critical area for global stability. The internal stability of the moderate regimes in the Persian Gulf, whose oil resources are critical to the West, depends on the solution of the Palestinian problem.

The instability, however, is at once both the cause and the effect of the Soviet Union's presence, and as the experience of past years has taught, it will be possible for the Soviets to foment crises right up to the point at which conflict becomes inevitable. Though certainly they intend never to step over that line and run the risk of a direct confrontation with the United States.

A. Pierre: "Nuclear Weapons in Europe". Council on Foreign Relations Books, New York, 1984, pp. 118. \$ 2.50.

Political relations between Europeans and Americans have experienced some difficulties over the past few years. Many would say that the Atlantic Alliance finds itself going through a period of real transition. Perceptions, interests, and value systems on both sides of the Atlantic are tending to move further and further apart. The close compatibility of multi-polar détente



with deterrence, still essentially a bipolar phenomenon," which was hypothesized by the Hamel report no longer exists. Europeans consider the United States military guarantee to be less solid and less dependable than in the past. As they see it, the political and economic costs of an Atlantic humanism are too heavy. The question arises as to whether the sole possibility for saving the Alliance, together with its positive effect on global strategic balances and European security, might not lie in a frank consideration of the differences and divergences. Only in such a way can the present tensions in transatlantic relations be kept from developing into a crisis.

The Council of Foreign Relations has taken the initiative with a broad-based research program which covers all the critical aspects of Euro-American relations (from dealings with the USSR, to the North-South dialogue, to questions of economics and finance) with a mind to further developing American and European points of view.

The first topic of study is nuclear arms. Their role has been a subject of heated discussion right from the foundation of the Alliance.

With the installation of the euromissiles, they constitute a central point in the strategic debate currently going on in the West. In four studies — two European and two American: W. Hyland (USA), "The Struggle for Europe: an American Point of View"; L. Freedman (UK), "United States Nuclear Arms in Europe: Symbols, Strategy, and Structure of the Forces"; P. Warnke (USA), "NATO's Illusion of a Nuclear Defense"; K. Voigt (FRG), "Nuclear Arms in Europe: the German Socialdemocratic Point of View" — the problem is examined using a number of different approaches in an attempt to find an answer to these fundamental questions. Must the security of Western Europe depend indefinitely on the USA?

What roles and functions should be given to the eurotactical and eurostrategic nuclear arms in the event of a Soviet attack carried out exclusively with conventional weapons? Can a conventional build-up reduce the West's dependence on nuclear arms for security, and if so, then what type of conventional build-up? What would be the consequences of NATO's adopting a declared policy of "no first use"? Should the INF negotiations be merged with the START talks, or should they continue to be held separately?

Should the MBFR talks also deal with either short-range nuclear arms or battlefield-deployable nuclear weapons? Just how important are negotiations to arms control and disarmament in East-West relations, and to European security? These are very widely differentiated problems, all dealing with the substance of western security, and the various authors answer them in widely different ways.

On the possibilities and limits of a wholly conventional deterrent, however, the answers are all pretty much in agreement. NATO must strengthen its conventional forces and reduce its dependence on tactical nuclear weapons. Still, it will be impossible to present a conventional deterrent as reliable and credible as a nuclear one, among other reasons for the fact that the absence of a forward line of defense is a political impossibility. As a consequence, it will always be necessary to maintain a strict relationship between conventional forces and theatre nuclear weapons, even if this relationship may become less automatic and organic than what the actual strategy of the alliance calls for.

As often happens in this type of study, all references are to the Central Region, completely neglecting the very notable differences and peculiarities of the Northern and Southern Regions. Indeed, it is to be hoped that Italian experts will play a more active role

in these efforts. For the fact remains that little by little these very studies produce the evolutionary tendencies of NATO strategy, which will, sooner or later, suddenly appear before our eyes, putting us in the unpleasant position of having to "take it or leave it", much as happened in the case of the euromissiles, and allowing us nothing in the way of an active contribution, or, more concretely, an adequate opportunity to look after our own particular interests and our own national point of view.

R. Roosa: "US – Soviet Relations. A Strategy for the '80s". United Nations Association (UNA) of the United States of America. New York. 1981. pp. 102. \$ 9.95.

Relations with the USSR, which have dominated United States foreign policy since the end of the Second World War, entered into a crisis stage following the Soviet invasion of Afghanistan. This interrupted a period of détente during which many had hoped that the differences between the two super-powers might slowly diminish and eventually be absorbed, allowing the military balance to be maintained at a much lower human and financial cost. Tangible results from this lessening of tensions were the SALT I and SALT II talks, which stabilized the equilibrium of strategic nuclear forces.

The fact is, however, that the USA and the USSR were pursuing peaceful coexistence and détente with divergent, if not totally opposing objectives. In particular the USSR has been able to transform itself during this period from a regional power to a world power.

The invasion of Afghanistan and the policy of the new United States administration have interrupted the process of détente and revived the tensions, setting off a new arms race whose cost



is becoming prohibitive for both countries. It seems more and more apparent that the resulting "impasse" must be overcome in order to establish the basis for a possible round of talks.

This is what the UNA has tried to do, promoting a series of meetings with the decision makers of United States and Soviet foreign and military policy. The conclusion of their study is that the USA and USSR cannot hope to be "partners", but, on the other hand, cannot afford a direct conflict either. They must realize that cooperation is a necessary goal, but one which can only lead them so far. Military balance will remain an essential element, but by itself it will not be enough to allow the USA to normalize relations with the USSR, something which can only be done in connection with a stable, long-range, effective diplomacy and initiatives on the economic and psychological fronts.

It is necessary to go forward without the illusion of either reaching a permanent state of cooperation or of attaining a crushing victory over the adversary super-power. Realism must prevail. It is especially important not to lose sight of the effect which foreign policy decisions and perceptions of external threats and national interest can have on public opinion and therefore on domestic politics, not only in one's own country but in the adversary's as well. The Eighties will be difficult, decisive years: the new challenges can be overcome only with a great sense of realism and a clear perception of national realities. Only in this way can the most dangerous tensions be defused, those which might otherwise escape the control of the United States and Soviet governments, leading to an armed conflict.

East-west relations are in turn influenced by North-South relations. When judging the initiatives of the two super-powers in the third world, their global political repercussions should be kept in mind. The USA, in

particular, if it wishes to be successful in its relations with developing countries, must extend to them the same concepts of civil rights which it upholds in its relations with the Soviet Union, and which represent the trade-off for the concessions granted the Russians with the Helsinki accords. A similar approach will give new energy and vigor to a western policy searching to regain its lost positions in the third world.

R. O'Neil (ed.): "Security in East Asia". International Institute for Strategic Studies. London, 1984, pp.193, £. 3.30.

The strategic situation in the Far East is much more unstable than the European situation. In the first place, it is not made up of two opposing blocs, as in Europe. On the contrary, there are at least four principals, with the USA and the USSR being joined by China and Japan, this last country joining the list even though it is tied to the United States by a treaty of alliance. In the second place, profound rivalries exist between the different states — as in the case of North Korea and South Korea, or Vietnam and the ASEAN countries — which can provoke tensions, or simply influence relations between the two super-powers. In the third place, the regional powers are prepared to use their conventional forces as an active instrument of their politics. Such was the case with Vietnam's invasion of Cambodia and with China's subsequent show of force against Vietnam. A fourth destabilizing factor is the domestic instability of many nations.

As a consequence, the strategic equation in the Far East must be evaluated on four levels: as it relates to the super-powers; as it relates to the major regional powers (China and Japan); as it relates to the other regional powers; and as it relates to the domestic stability of all the states

in the area.

This volume, like the others in the IISS's Adelphi series, is a collection of essays by the world's foremost experts in the particular field who examine topics ranging from the interests to the perceptions of the USSR, the USA, and China on problems of security in the Far East, from the correlation of the various forces to the role which Japan and ANZUS can play, from China's objectives and the influence they can have on the regional strategic context to the socio-political-economic-military transformations now taking place. In this respect, four points are particularly interesting: the changing relations between China and the USSR, between China and the USA, and between Japan and the USA; the United States' increased interest in the Far East; the prospect of a Chinese military build-up in the eighties; Japan's perplexity over United States policy in the area and her attitude of caution towards tying herself too closely to the Americans.

Obviously, there are no clear-cut answers. What emerges instead is a very complex picture with a potential for extremely dynamic change. In particular, it is impossible to evaluate questions of Far Eastern security without keeping in mind the interaction of the various levels within a global context — the international level, the regional level, and the level of domestic politics — and the potential effect that transformations in the area's situation can have on European security. The fact is that the USSR could diminish its military presence in the Far East in order to consolidate its forces in the European theatre.

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The **tilos** system is formed by two wide-body, cross-country, military-shaped vehicles, made of aluminium, armoured against the NATO 7.62. They are called: VTL, the towing vehicle, and TU the towed unit. Of the two, the towed unit houses the operational system or the basic logistic function with the relevant equipment; the other one, the towing vehicle, houses the complementary functions, besides being a towing unit.

Therefore, the towing vehicle solves the operational-logistic problems connected with the functioning of the main system: for instance, the transport of the personnel employed in the running and/or defence of the control centers, or the generation of electric power, the connection with other centers, the supply of water, food, etc.

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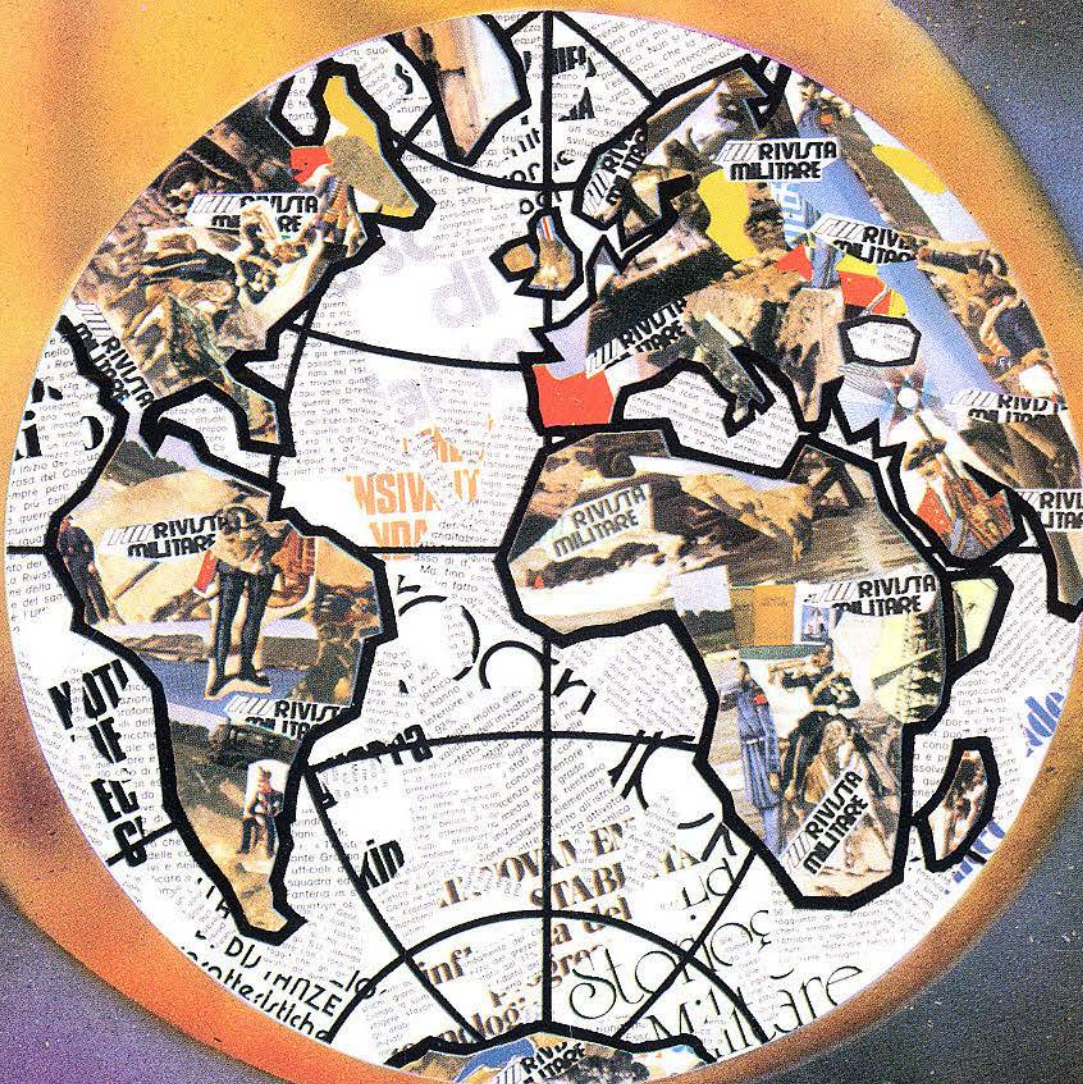
tilos is the actual answer to the problem of transporting «always and everywhere» (and particularly in tactical areas) systems and equipment. **tilos** is the answer to any operational-logistic problem, when high mobility and complete autonomy are of vital importance.



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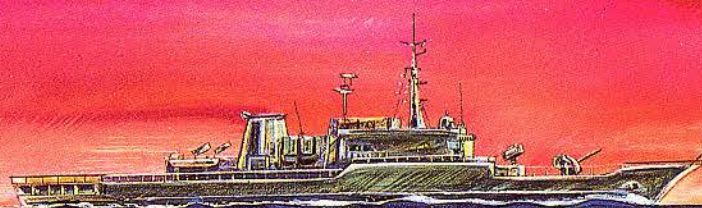
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CONTENTS



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The aim of the Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. The Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Training and Character Evolution and Tradition. *(Umberto Cappuzzo)*

2



Notes on the Study of Public Opinion. *(Ciro Di Martino)*

10



The Citizen and Defence. *(Umberto Cappuzzo)*

18

Are Citizens Informed about Defence Problems? *(Luca di Schiena)*

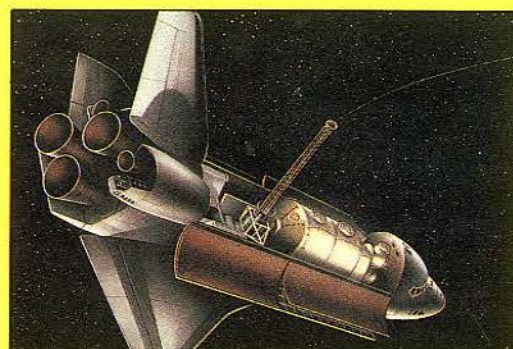
26

Is Public Opinion Interested in Defence Problems? *(Giancarlo Mingoli)*

27

The Problems of Defence on the Threshold of the Year 2000. *(Giorgio Donati)*

30



Collective Security and National Defence. *(Antonio Pelliccia)*

48



The Royal Italian Army. *(Valerio Gibellini)*

61

Technical Data.

70

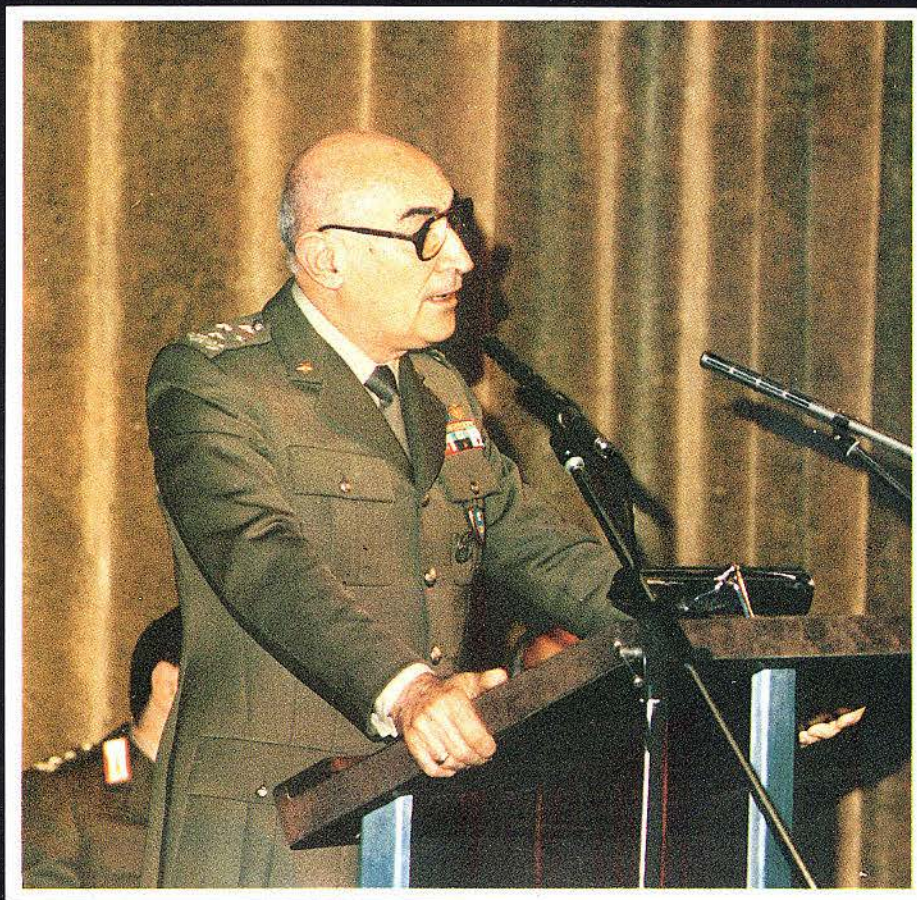
Book Reviews.

80

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TRAINING AND CHARACTER EVOLUTION AND TRADITION

FOREWORD

This is the fifth time I have addressed the young Officers of the Carabinieri Corps at an occasion of this kind, and through them, the great family of the Carabinieri to which I have the honour of belonging.

Over the years, beginning in 1980 when I was the General Commanding, and later as the Army Chief of Staff, this traditional meeting has become something much more than a formal, albeit solemn, ritual for me. Apart from the variety of topics that have been dealt with, all rationally incorporated into a unitary whole, this meeting has offered me a chance to express my feelings. My feelings

towards an Institution for which many envy us. But I have expressed my feelings discreetly, almost as if I were speaking to my own conscience, enthusiastically retracing the many experiences I have had in the Carabinieri, with the Carabinieri and for the Carabinieri.

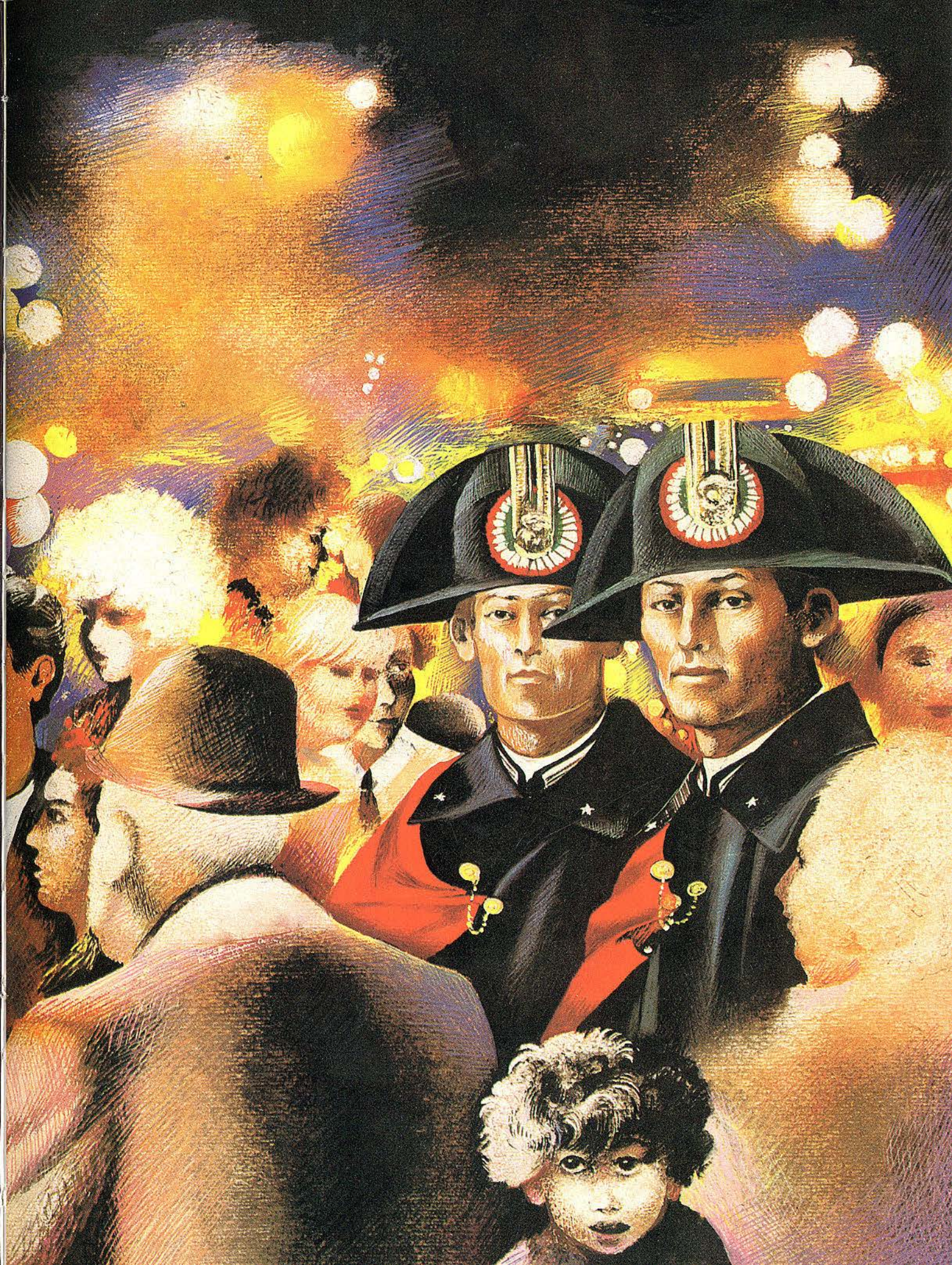
And I am grateful to you, my fellow Carabinieri of all ranks and positions, for this most valuable heritage.

It is in the same frame of mind that I have come along once again today, to greet you on behalf of the Army – the Service which has the privilege of incorporating you as its spiritual and ideal vanguard – and to express our most sincere appreciation of everything you

are doing, with humanity and professionalism, to defend the rights of our citizens.

Amid the tumultuous events that take place in our country, it is a source of satisfaction to see what you are doing, and to witness your commitment.

Faced with a society that is increasingly demanding to move ahead in freedom, order and security, and which places **moral demands** to the forefront among the fundamental objectives of progress, the Carabinieri have a vital role and function that transcend the particular way in which they are used to prevent crime and ensure law and order, and have become the **"symbol" of the real Italy**, the clean Italy that works and produces, and





which does not throw over her traditions but knows how to be modern, without asking what has to be done, and sets about building up a better future, without asking for anything in return.

The Carabinieri Corps is an extremely valuable benchmark, together with the other Institutions that are fighting the same battle, and it is fully justified in taking delight in the results obtained, and the prestige it enjoys in the great national community.

But this is not the point of today's ceremony.

"SENSITIVITY TO INNOVATION" AND INNOVATORY PROCESSES

Speaking to young Officers who will shortly be expressing their full professional maturity in posts of responsibility on the threshold of the year 2000, this rallying call to take pride in past achievements has a significance that we would do well to examine closely, so that we can draw

from it the **needs and prospects** of the immediate present and the most distant future.

In the age in which science and technology, information and communication, awareness and participation are reigning supreme, the **relationship between the men belonging to the Institutions and the general public** is quite different from what it used to be in the past.

At a time of fast-moving development, the **professionalism** that I had occasion to address more than once when I was the General Commanding, is not only the synthesis of a training process in which theory and practice, notions and procedures, cultural heritage and acquired technical skills are perfectly harmonized.

Certainly it is all of these, but with something more. That "something more" is not knowledge, nor experience, but sensitivity – **sensitivity to innovation**, to the innovatory processes through which we are living.

These are **innovatory processes** that enhance the **dignity**

of man and the **good of society, freedom and consensus** on the one hand, and the **inexhaustible possibilities of electronics** on the other. All of this reflects on the approach to be taken to personnel use and the command action in the broadest sense of the term.

At the same time, they are innovatory processes which as far as we are directly concerned also give rise to **modern criminal techniques that are becoming increasingly menacing**. All this determines the need for personnel specialization, to give our men the professional skills they need to beat the most aberrant forms of crime, such as those inspired by terrorism or the mafia, and which are having such a harmful effect on the security of society through their domestic and international ramifications.

The course that you have been attending will enable you to become aware of the duties that await you, in what I would call a historic perspective in the sense that it is linked to the

disciplinary or interdisciplinary approach to the education you are receiving. As such, it will be of relevance to you insofar as it enables you to transfer it to those duties you will be given as you advance in your career, in a broader perspective, in which society – present and future – will itself become the primary subject of a discipline that comprises, and conditions, all the others.

TECHNOLOGICAL AND SCIENTIFIC PROGRESS

“Sensitivity to innovation” also means the ability to take in the unique contributions of **technological and scientific progress**, which does not merely mean designing appropriate methods but embarking on a real revolution in the way we approach problems, in the methods of analysis, in the procedures used to take decisions. It is the type of scientific and technological progress which has an educational impact on the man who makes use of it, affecting the way he reasons and his benchmark values, and it therefore takes on philosophical relevance in the full sense of the term.

Data processing, which is now a fact of life wherever we look, is not just a technology as some have simplistically been led to believe; it is not merely a question of having equipment with a large storage capacity to be used by, and for the benefit of, man. It is much more than that: it is the affirmation of a **new rationality** which deeply affects the pedagogical approach to training specialized personnel and the methods to be used to solve operational and force-use and command problems.

Faced with so many difficulties, we often hear the self-styled experts (who are anything but) laying down the law and saying that the panacea to this or that operational problem is a “data bank”. This is pretty naive as it stands, and shows how much further we still have to go before we create a real





"EDP culture" that places the right emphasis on the "creative" software design stage, and the hardware-use stage. Certainly this is important, but it requires a preliminary programming process, specially targeted at the goals intended.

Having an EDP culture means knowing how to think along EDP lines. Thinking along EDP lines means having the right degree of training and knowledge to be able to use the logic that we have managed to put into the computer. It therefore means knowing how to give the computer the logic that we feel is the most appropriate to meet our institutional objects.

TRAINING AND CHARACTER

The military Institution is fully aware of the magnitude of the problems that have to be faced and solved, and it attributes primary importance to **Officer Training Institutions**, and particularly to this School, where longterm Carabinieri Officers

are given a sound training under the watchful eye of highly qualified military and civilian instructors. It is an **undergraduate education** in terms of the number, the breadth and the difficulty of the disciplines you study. But it also another kind of training – and I would like to stress this aspect – which differentiates this University (if I may be allowed to call it that, even though it has not yet received the legal recognition that has been proposed in a great many Bills laid before parliament) from the other Italian Universities.

As you can guess, I am referring to the **moral profile** that the undergraduates from this Institution must have and perfect, in order to become Commanders: they must be men who are able to set an example in all things, to lead and guide other men not only in their daily routine duties, but above all in the dramatic moments of emergency and crisis, in the most dangerous moments when certain supreme values are at

stake, such as honour, dignity and human life.

Hence the ethical sense of your education which involves your hearts and your minds at one and the same time, as well as the specific sphere of the subjects you are studying and the general sphere of the principles that are proposed as the pillars and standards by which to live your lives.

The **professionalism of the security officers** who apply their skills within society itself is enriched in the case of Carabinieri Officers by training in the **command function**, since they have to be able to establish themselves as Leaders – men who have the exciting duty of using other men, and coordinating their actions, in the various spheres in which they are called upon to serve.

They must be able to do this, as I have already said, by setting a good **example**: an example in everything – technical and moral, their military style and form, their constancy and tenacity, their organizational

ability and personal morality, fairness and sense of justice, no less than their rigorous respect for the rules and the orders received.

In this light, we are looking to you, the young Officers attending this Course, with confidence, trust and hope.

The future is in your hands.

The Corps will be what you make it with your dedication, hard work and self-sacrifice.

EVOLUTION AND TRADITION

It is important to perceive the symptoms of change in a given situation to identify the future trends, which have to be monitored as time passes, and then study the changes needed to adapt the **structures** and the **regulations**, and to decide what **steps are necessary to perform the duties required**. But it is equally important to know how

to interpret the **benchmark ideals** and **values** in contemporary terms.

Evolution and tradition, correctly understood, can be the locomotive force of the vitality of an Institution, which is increasingly winning over the support of the community, helped by the fact that it covers the whole territory.

I am sure that the Carabinieri will remain the official symbol of our Italy for a long time to come, quite apart from their function and the particular duties they perform at any given moment.

This call for professionalism in a contemporary context, and the emphasis I have placed in the ethos of command, offer me an opportunity to repeat to you something else that is very important to me: your work will bear fruit to the extent that you manage to achieve a **high level of efficiency** in the structures in

which you will be required to perform your duties.

Efficiency means organization, planning, method and the ability to rationally use men and materials at the right time and the right place to attain an end, and perform a duty.

Italy is craving for efficiency, but demanding it does not in itself bring it into being. It takes a long time to achieve; it demands will-power, unstinting effort, constancy, control and sacrifice.

Compared with the world that surrounds us, we soldiers have no cause to criticize ourselves, but this is not a good reason for sitting back content with what we have managed to achieve.

We can and must do more to make an adequate response to the many **challenges** that society is throwing down to us. We must therefore work to adapt the distribution of effort





and procedures, courses of study and facilities, operational methods and the principles of force-use to meet the needs of the times.

In this endeavour to modernize an Institution which proudly boasts 170 distinguished years of history, the Carabinieri Officers' School has a unique role today, which may become increasingly more vital in the future.

This role will develop if – as we all hope – this School, together with other similar establishments in the Armed Forces, manage to become **Research Centres** in their sphere of competence; in other words, if they devote themselves above all to the systematic study of particular technical aspects of every kind of internal violence, from subversion to terrorism, from

petty delinquency to largescale crime.

This study is not an end in itself, as an abstract academic requirement, but the prerequisite and the outlet for an ideal itinerary through which the legal and purely technical disciplines merge into a perfect whole in view of the tasks to which the graduates will be assigned.

It is not without significance that a great step forward has been made with the use of EDP, even though it is only a first approach that has to be fleshed out with new substance as time passes, and it confirms our proud boast that we are the sons of our age! We have set up a "data bank" in the ambit of what we call the **study of conflict**, which is a totally original interdisciplinary system that has long since been elevated to the

rank of a specialism, and which has replaced the classical "polemology" approach to war studies, and has given our War Colleges a positions of unrivalled prestige.

The ability to relate the data available in the Armed Forces' War Colleges on **external violence** (wars, revolutions, emergencies, international crises) with the data on **internal violence** stored in the Carabinieri Officers School will enable us to deal with all kinds of problems relating to security, using a rigorous method, referring to many parameters that are suitable for indicating the distinctive features, and the constants and variables of particular situations, and then suggest the most appropriate course of action to be taken.

This confirms the validity of an approach which postulates

a clear strategy as being the only way of planning and executing any action.

Do not think that the high road that I am indicating here is out of all proportion with the initial responsibilities that you will have to take on.

Any sound educational process must aim at training the students to do their immediate duties well, but it cannot neglect the general framework within which they have to operate in the future.

Only in this way will you be able to take on increasing responsibilities and be firmly in control of them, as you proceed in your careers.

These are goals that cannot fail to be a source of pride to those who still believe that the Armed Forces' Educational Establishments have a cultural function, ranging beyond merely supplying technical knowhow for the short term, and becoming a primary source of stimulus to that necessary process of renewal in everything we do, with the firm intention to enhance the **operational efficiency** of the whole system.

Taking a rather romantic view, linked to so many past memories, it is quite reassuring to hear your General Commanding say that this operational efficiency will remain one of the kingpins in the Carabinieri Stations, as a tangible sign of the presence of the State in every corner of the national territory.

CONCLUSIONS

As I reach the peak of my military career, and when I think of the 42 years that have gone by since I was standing where you are now, at a similar inaugural ceremony, when – as I say – I think back over those 42 years, to my mind springs a succession of facts and events, mingling history and current affairs, in a rapid panorama. And through these events I see not so much a career which has been a source of great satisfaction to me, but rather

the development of an **extremely interesting age in the military art**, of which I have been a careful observer and witness. It has been so overwhelming in terms of the repercussions it has had on cherished doctrinal ideas, that it is a **"fully-fledged revolution"** that has few precedents in past generations.

This is an elementary observation, but it prompts me to remind you that you should never consider any of the certainties of which you are now the custodians to be definitive.

You must also be careful observers and witnesses, in order to learn, to understand and to act. In other words, to acquit yourselves intelligently and competently of the sensitive tasks that will be entrusted to you.

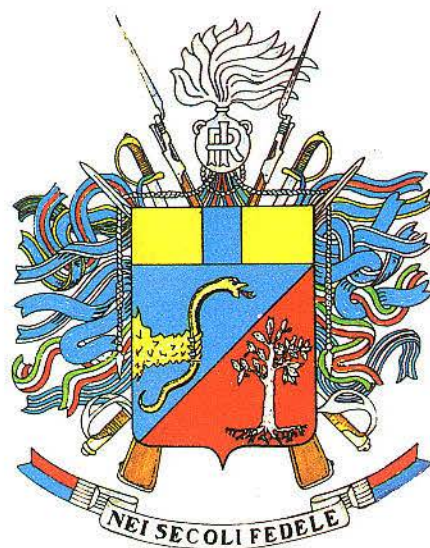
You must also be bold in taking on responsibilities, and in putting forward your ideas and views with intellectual honesty.

Remaining aloof from any kind of conformism, which is even more mortifying to those who tolerate it than to those who profess it, you will only manage to establish yourselves as leaders worthy of total respect if your intellectual honesty is such that you play an active part in the life of your Corps, giving what is required of you and doing everything in your power to ensure that it does not remain a static Institution, but one which **moves ahead with the times**.

I still remember the words written to me when I was a Lt. Colonel on the General Staff by a great Leader, Gen. Oreste Viligiardi, whom I remember with great reverence. In his letter, which I have jealously preserved, he wished me well in my new post on the General Staff, and said that the hope of a better future for the Armed Forces lay in their capacity to "innovate, modify and revolutionize".

I take these words as an admonition.

Yes, "revolutionizing", singlemindedly and fearlessly, giving this term the constructive sense of **"change for the better"**



without reneging on the past as such, but changing it when it no longer meets newly arisen needs and situations, without fearing to take on board the ferment and the demands of the present, not so much in se, but insofar as they are pointers to improvements in performing the mission that has been entrusted to us. This is the path of **renewal in continuity**, and of **modernization in tradition**.

With this wish, which is also intended to be a message of hope, and with the permission of the Minister of Defence, I have the honour of officially opening the 1984-1985 Academic Year of the Carabinieri Officers' School.

Address by the Army Chief of Staff, General Umberto Cappuzzo, at the inauguration of the 1984-85 Academic Year, in Rome on 29 November 1984, at the Carabinieri Officers' School.

NOTES ON THE STUDY OF PUBLIC OPINION





THE IMPORTANCE OF OPINION

Public opinion has always been widely acknowledged as an important basis for authority: present in the life of the Greek "polis", considered by the Romans as "rumor" or "vox populi", referred to by the general term of "consensus" in the Middle Ages, it was considered also by Machiavelli, who pointed out the importance of the people's support, and thus of public opinion as a powerful force in government.

However, the role and influence of public opinion have developed and grown stronger with the rise of contemporary mass society and with the gradual process of the democratization of nations.

From Rousseau's "general will", which has led several scholars to set the emergence of modern public opinion at the time of the French Revolution, the "opinion" factor gradually grew in a country's democratic structure as a force capable of exerting an appreciable effect on State affairs, although outside the constitutional organs.

The Armed Forces in general, and the Army in particular, as the largest and most representative component of the military apparatus, have always implicitly acknowledged this importance, equating the "morale" of its personnel with its own form of "public opinion".

PUBLIC OPINION

What actually is public opinion, in essence and in all its multi-faceted aspects?

In its definition as the general opinion, and not just the opinion of active minorities, comparatively little is still known about this important "phenomenon" acting on the social and political life of the people. Even

its more authentic institutional forms, such as voting in elections and political parties, fail to give full expression to it. However it is defined, public opinion remains an element of fact, not theory, a concrete problem and not an abstract concept.

A movement of opinion either exists, or it does not: modern survey and experimental observation methods make it possible to state this without fear of contradiction.

Like the population itself, public opinion is not homogeneous; it is divided into different groups according to sex, age, geographic position and working environment. To varying degrees these different aspects and influences determine the different individual attitudes.

Evaluations concerning the formation and development of public opinion are dependent on the peculiar "distribution" among the homogeneous groups of "values" corresponding to historical, psychological and social factors, the most important of which is "tradition". The principles handed down from the past are generally accepted as absolute, i.e. not subject to verification, as they have become consolidated in time and are now respected as axiomatic. Having become part of everyday life, these pillars of "common sense" provide a basis for other "values" that are considered unstable because they are linked to fashion, passing fads and the current state of affairs.

The lowest common denominator of both lies in their interest in the community, whereby the majority tends to subscribe psychologically to certain utilitarian models which correspond to widespread logical patterns of thinking.

In this framework, Italy today manifests set patterns or "formulae" and is characterized by the predominance of certain

stereotypes, i.e. of those socially shared beliefs organized into sets of characteristics attributed to such a category of persons as represent the essence of Lippmann's theories. This phenomenon is encouraged by the spread of consumerism in the broader sense of the term, which involves the general acceptance of patterns of behaviour often unaccompanied by any rational justification. There is no denying that the Italian people is currently the unwitting prisoner of so-called "factors of conformity" ranging from isolated phenomena to the incessant bombardment of commercial advertising and other forms of pressure that ultimately lead to an actual "polarization of opinion".

The "cliché" is now so much part of our daily lives that its antidote, consisting of forms of rational realism, is often interpreted as a sign of originality and non-conformism. This provides a fertile soil for the growth of the "pluralistic illusion", since individuals are convinced that the generalized adoption of certain models means that an identical conviction is held by the majority of citizens.

However, it would be a mistake to think that Italian psycho-social reality is made up of various homogeneous groups linked by a basic consensus of opinion. The apparent uniformity of behaviour merely conceals a whole kaleidoscope of different ethical values, customs, class prejudice, atavistic preconceived ideas which cannot be changed by the various fashions and conventional atti-

Left.

Picturesque image of the square in front of Orvieto Cathedral during the oath-taking parade of recruits of the 3rd btn. Granatieri "Guardie". In the foreground: the Colour Troop.



tudes. This gives rise to methodological problems when the time comes to carry out evaluative surveys of characterological aspects, typical temperaments, the incidence of the religious factor and environmental conditioning.

An opinion scale system, i.e. a "qualitative" evaluation of opinion based on an established theory like that of Thurstone,

would be suitable for the Italian context. However, this method is very slow and would call for laborious techniques. The tendency is thus to use the faster "sampling" method, which is also characterized by higher acceptability levels. This system is now being used both by private and public structures, all of which acknowledge its "scientific" nature in view of its

proven adherence to the social reality of the results obtained. This explains the great success enjoyed by public opinion surveys used to measure the extent of the phenomenon. They cover a wide range of applications and allow extremely reliable predictions to be made.

A good example of this are the "projections" made at election time, which almost always give a fairly accurate picture of the results of the final count. However, the question to be asked is: what are the basic motivations and characteristics of Italian public opinion that must be taken into account in any research that is to have a guaranteed significant content? It is therefore necessary to give a brief outline of the lines of development that have characterized Italian society in this century. Historically speaking, in Italy the various aspects of public opinion take on a peculiar physiognomy as a result of the lack of any real tradition of democratic independence. The stirring events of the Risorgimento leading to Italy's unification and independence did not find any immediately fertile soil which could foster the development of a true form of training and growth of common trends or coherent schools of thought on which the modern concept of public opinion could be based.

The ideals underlying the great political movements of the nineteenth century, although almost unanimously supported, did not find the right objective conditions to allow them to be translated into factors of perceptible transformation of the psychological structure of society.



CH-47C helicopter on a fire-fighting mission. Attached to the aircraft is a "Smokey" container with a capacity of 5,000 litres of water or retarding liquid.



Also, after the unification of Italy, the obstacles linked to the previous conditions continued to have a retarding effect on the "explosion" of public opinion. The governments of different political colours that followed one another during the post-Risorgimento period did, however, take popular demands into account. These demands were either expressed openly or else could be guessed at behind the screen of an apparently uneventful life and a social "peace" that was more apparent than real.

The mingling and coexistence of middle class, patriotic, materialistic, spiritualistic, utilitarian and epical ideals that characterized the early twentieth century was unlikely to allow a dominant factor to emerge from among this kaleidoscope of social trends. However, it was actually this intense dialectical exchange of ideas that, during and after the first world war, was to increase the importance of the role of public opinion vis-à-vis political decisions and customs.

These historical facts seem to explain the delay with which the "science" of evaluating social trends developed in Italy. The advent of a dictatorship in the 'twenties was not favourable, among other things, to the free development of the various survey techniques, except for those suitable for obtaining certain well-defined results.

The general acceptance of certain rigid principles forms the basis of widespread homogeneous behaviour patterns that are accepted acritically and without being tested against a set of opposing circumstances. The resulting psychological constraint is concealed by means of skilful propaganda often cloaked in authentic but naive enthusiasm.

This "science" of forming public opinion weighed heavily on an artificially guided society and had inevitable repercussions also at the military level. Youthful enthusiasms, carefully and subtly directed, can, on the one hand, be useful for disciplinary and behavioural purposes, although they can also lead one to lose sight of objective reality. It may not always be possible to predict which direction the resulting disappointment and reactions will take. World War II,

An army unit guarding a railway line. As part of its civil protection and guard duties, the army also provides personnel for polling-booth guard duty at election time.





which had a disastrous outcome for Italy, is a perfect example of this. However, this war laid the foundations of the historical and social dialectics forming the basis of the present Italian democratic situation, in which public opinion has been raised to the level of clear political will as expressed in the organs of the State. It is no coincidence that article 21 or the Constitution sanctions the safeguarding of the free expression of thought in the wide and diversified forms sanctioned by the law. It is true that the constitutional enactments also favour the freedom of propaganda, which often acts as an instrument of persuasion, but it is also true that the autonomy of general opinions and the cultural growth that has occurred since the last war allow both single individuals and communities a choice of thought

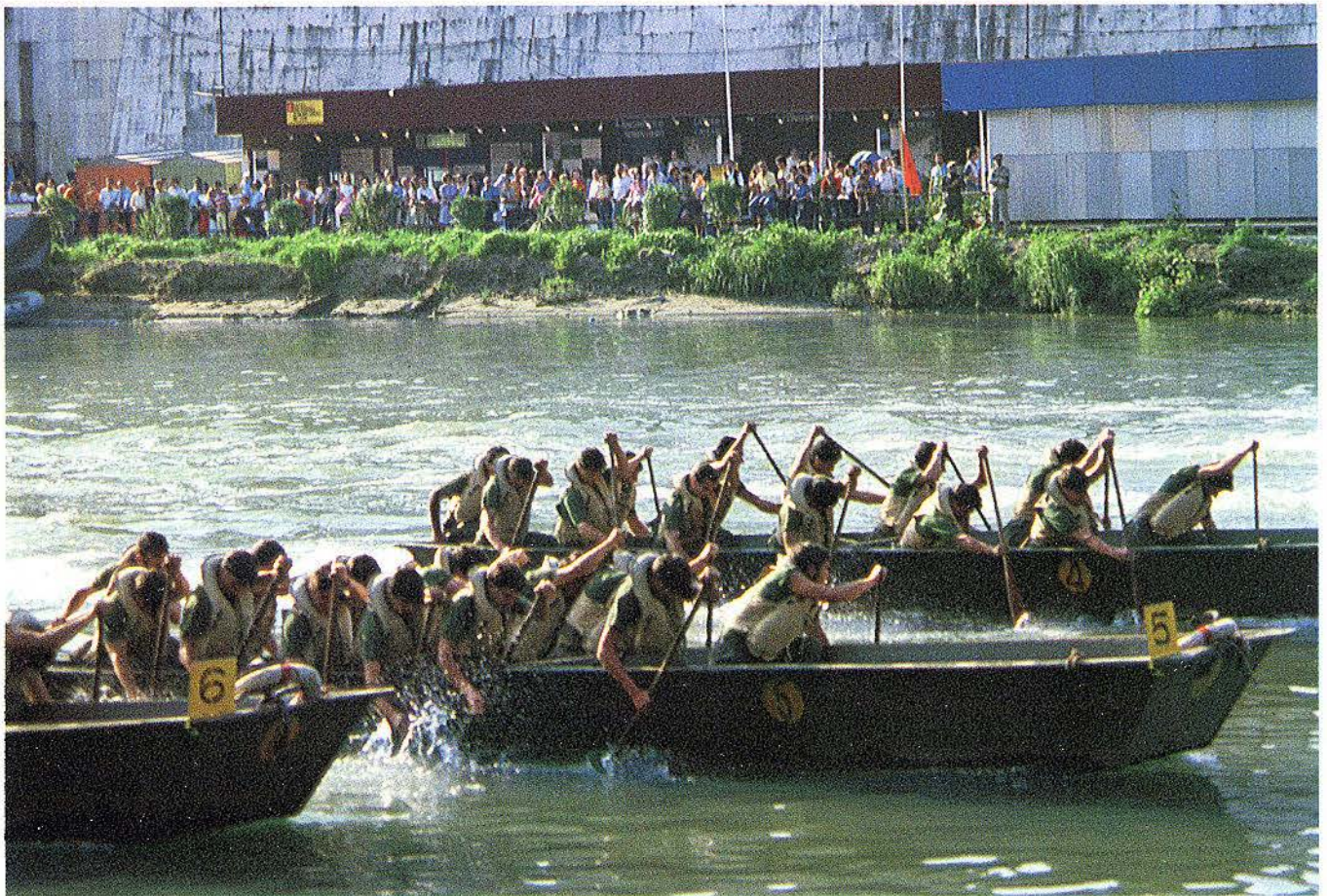
and opinion sufficient to render even the most "sophisticated" expedients virtually harmless. Consequently, also under the influence of the systems of social analysis in use overseas and in northern Europe, new techniques and "scientific" criteria for evaluating public opinion are now being introduced at a rate that would have seemed impossible several decades ago.

These methods make an extensive use of statistics, a branch of learning that is now developing in leaps and bounds. This extraordinary evolution of statistics, which, as a science was created about in 1660 for the purpose of describing states in the wake of Conring's courses at the University of Helmstedt and which became firmly established in about 1850 when it merged with Quetelet's proba-

bility calculus, is now accompanied by that of the computer. The tremendous impact of this machine, which has now been introduced even in the home, is gradually changing our way of life and has actually come to represent a threat to independent thought.

However, when viewed in perspective, these devices are seen to have made a substantial contribution to the free formation of public opinion. One example of this is the computer's

Lagoon troops on the Tiber during a boat race. An annual event in the "Tevere Expo" show held in Rome is the rowing race between lagoon troop units. On the same occasion, engineer units traditionally give a practical demonstration of throwing a bridge across the Tiber.





capacity for making projections, which although still only statistical predictions, nevertheless provide a reasonably accurate indication of future trends.

For some years now, extensive use has been made in the military field of results and indications obtained through the use of computers, which have proved to be particularly useful in recruiting and in establishing objective situations to be taken into account when drafting specific regulations. However, the technical instrument consists mainly of a system of recording the main trends of a society of which the Armed Forces are an integral part.

In a dynamic and dialectical democracy, other components have been given the specific tasks of acting as the vehicles of formative ideas. These are the mass media, i.e. in the first instance, television, which for

better or for worse has literally become the modern equivalent of the old fireside.

Increasing use has been made also by military organization of television's capacity for transmitting messages down to the lowest levels, in order to give a more realistic image of the Armed Forces, and in particular of their social function. At the same time there has been a considerable increase in the amount of space devoted by the national press to defence matters, and a growing awareness of them by the public at large. The general attitude to military matters has thus become much more favourable and a hitherto unsuspected social sensitivity to related topics has emerged. Except in cases of vested interests and propaganda, it may be assumed that no public "pro-military" or "anti-military" opinion exists, only a concrete

Bersaglieri fanfare on parade. The music units of the Army often perform on public occasions, captivating the people present and earning a lot of applause. The most prestigious musical unit is the Army Band composed of 102 NCOs who are conservatory graduates.

appraisal of what the Armed Forces produce for the benefit of society. This is closely related to the image they project through their loyal and generous efforts. The reason for this is that the principles and convictions generally accepted in Italy today are not the result of abstract concepts but derive directly from facts and events in



which the entire population is involved through the media. This is shown by the unanimous consensus and manifestations of gratitude received by our soldiers for their services in times of national calamity and their significant action on behalf of peace. It would be interesting to conduct an extensive survey of the people's attitude to the military as a whole, and not just of a specific

branch, as the results could be highly indicative of the more general relations that exist between the citizen and the institutions.

A survey of this kind could provide interesting indications for a country like Italy that has yet to probe deeply into its own psychosocial identity. This probing has already been done in certain countries, in which for decades a wide use has been

Military and civilians during a public exhibition. One of the Army's many tasks is to seek continuously to make direct contact with the civilian population, and particularly with young people. This is done by means of stands set up at the various local and national exhibitions, congresses, shows and festivals.



made of statistics and other survey tools for the purpose of sounding out their own public opinion.

The present historical period is marked by the increasing use being made of these tools at the international level despite their obvious limitations. These limitations are implicit in the very field in which they are used, namely human nature, which is essentially heterogeneous, unpredictable and changeable. To some extent Disraeli's caustic comment that there are three kinds of untruths – the outright lie, perjury and statistics – still holds true.

FINAL CONSIDERATIONS

Although a tool for observation and not for action, a public opinion poll is nevertheless capable of illuminating and guiding the behaviour and the study of the human environment. Public opinion polls must be set up and carried out using the correct scientific procedures. If this can be done they will render a very precious twofold service: at the theoretical level, increasing our overall knowledge; at the practical level, improving the organization of social relationships within the framework of democratic institutions.

With specific reference to the military field, a scientific understanding of opinion or "morale" adds a further decision-making tool to the array already available to the command function in order to back-up the decisions to be taken. Furthermore, the interest taken and the efforts made in studying a human environment and investigating public opinion can have extremely valuable spin-offs. The results of these studies allow the manager or commander to make use of environmental evaluations and public opinion



surveys by going from a knowledge of the opinions held in a given human environment to making certain predictions based on its behaviour.

Leaders can utilize the results of the human factor survey as a powerful means of acting on "groups". This will provide them with a psychological "keyboard" from which they can choose the different "keys" they wish to press.

Of course certain doubts will come to the surface from time to time, more as the result of erroneous or distorted applications of survey methods than of any lack of validity in the actual statistics. In the words of the French sociologist Jean Stoetzel "the legitimacy of any quantitative science cannot expect to go unchallenged. However, philosophical objections of the transcendental type have merely delayed the progress of science without making it possible to establish a qualitative science that will both satisfy the mind and be effective in its applications. The value of the use of the concept of 'quantity' is a matter of fact".

Trooping the colours during a parade. Veterans and Servicemen's Association rallies provide the occasion for young servicemen, veterans and the general public to meet.

And for us in particular, in the face of the growing importance of statistical and sociological studies, the following statement by the French Marshal Louis Lyautey, who is also the author of a book on the social function of officers, should serve as both a warning and a spur to making a greater and "more open" effort: "the soldier who is nothing but a soldier is a bad soldier".

Ciro Di Martino



THE CITIZEN AND DEFENCE





General Umberto Cappuzzo, Army Chief of Staff, has reviewed two articles by Luca di Schiena and Giancarlo Mingoli.

A few days ago, an article in a national daily had this to say:

"Here is yet another sign of the times. One of many. Only ten, fifteen years ago, the word 'success' had fallen from favour. Seeking or obtaining success was not meritorious, but a weakness. An act of culpable 'individualism' (often qualified by the adjective 'bourgeois' to get the point home) ...

Today, three books on success are being published ..."

Until very recently, it was considered even more serious to talk about the "military life" other than in contemptuous or belittling terms. And things were hardly helped by the halfhearted sporadic attempts to praise it.

Today the situation has changed somewhat, and is still changing. A great deal is being said and written about it. Not all the hesitations have been overcome, but people do want to understand and learn more about it, and to do away with a misunderstanding that has lasted far too long. There is renewed interest in the military Institution, which plays a primary role in the field of the country's security, and hence its development.

Yet this U-turn, and all the time and energy devoted to it have not yet managed to topple the hasty judgements and the uncalled for obfuscation that was prevalent throughout the Sixties, often in the form of slogans, to attack the Army, depicted as a compendium of negative forces, with its back turned against society, intellec-

tually backward, conservative and hankering for the past.

We are still only halfway home, and two articles in this issue of "Rivista Militare" by the distinguished editor of TG3, Luca di Schiena, and one of the leading newscasters of GR2, Giancarlo Mingoli, have very clearly summed up the problems of this transitional phase, which I personally consider to be very stimulating and valuable.

Both these writers deal very penetratingly with the problem of the two-way flow of **information between the Army and the Country**, examining the level of integration between them, and the "popularity rating" of the Armed Forces in the public mind.

The first article is deliberately provocative and more stinging in its comments; the second more understanding and optimistic. Two different journalistic styles, but above all, two different sensitivities to the current status of the military world, and indeed the questions put by one writer are substantially answered by the proposals advanced by the other.

Both agree that there should be more detailed information available.

In Luca di Schiena's article, there is a sense of bitterness that what might have been done has not. Perhaps, deep down, there is the need for a benchmark behavioural model that is becoming increasingly necessary today.

One can sense this, reading between the lines, and from the fact that the author spells out his question so clearly that it almost hurts a "man of arms", who appreciates utter sincerity. And for this I am grateful to him.

I am equally grateful to Giancarlo Mingoli for his well-pondered considerations about the "changed relationship" be-

tween the military and civilian worlds.

"When they are not in Lebanon, or when there are no disasters to deal with, or when their intervention is not in demand, what do soldiers do? How do they train? What use are they?"

This is the clear, concise, telling question that Luca di Schiena asks. And it strikes home, because if this is really what "people" are asking, one would have good cause to question the very stuff of which our well-founded participatory democracy is made, and be very concerned about the efficacy of the mass media whose choices and activities – incidentally – have certainly nothing to do with the military sphere.

One is tempted to answer the question with another one: "What do athletes do when they are not competing? What do firemen do when they are not putting out fires? What do teachers do when they are not actually teaching?". And so on. We could ask hundreds of such questions.

Well, the military do something very similar (they train, they practise, they study for a particular job or activity that they may be required to perform). Except that in their case, these "jobs" or activities are events that they hope they will never be called upon to engage in (like a blaze to a fireman), with all the psychological implications that stem from this. It is hard to "fulfil oneself" (if I may use this ugly neologism!) by getting in

Left.

The Army Chief of Staff speaking to young students at the first national campus of Veterinary Undergraduates, held in Grosseto.

a state of readiness for a duty that one hopes one will never be called upon to perform. I am obviously referring to putting out a fire or to putting one's combat readiness to the test in a real-life situation (on the battlefield).

To complicate matters still further, there is the fact of military service with the idea of coercion and compulsion, in a country which does not exactly shine for its public spiritedness (plus the fact that the work is poorly paid, and that the remuneration is not proportional to the sacrifice involved).

As I was saying, the military are not dissimilar to the firemen. They are endeavouring to prepare a military instrument that is "credible" and, as such, able to make an effective contribution to shoring up the equilibrium that has given us forty years of peace.

"Credibility" is something that belongs to the category of value judgements and it is therefore not easy to evidence, and even harder to measure.

If people really want peace, in freedom and independence, they cannot ignore the importance of the "security function": it is a function of great social relevance.

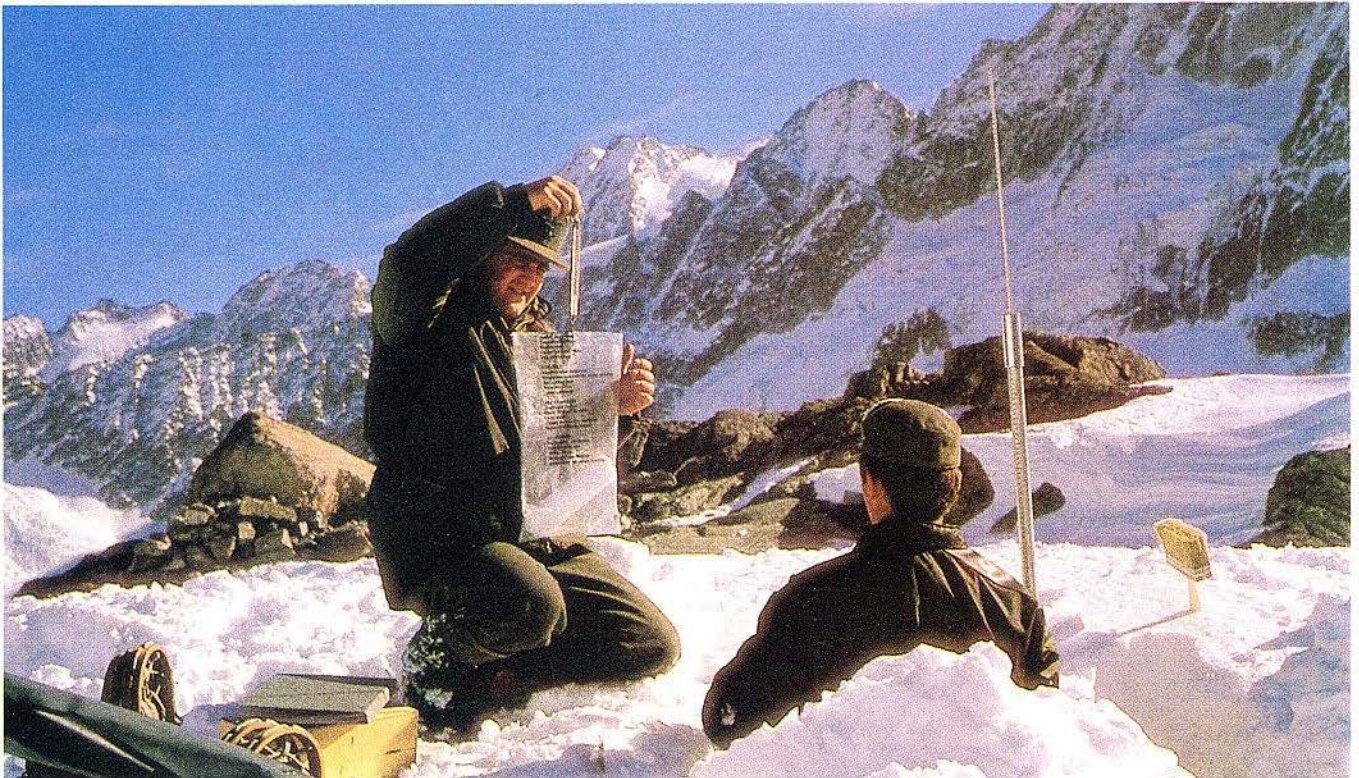
And so it is the people that have to be informed, urged to participate, and made to understand why we exist, who and what we are, and what useful purpose we serve.

Security, international military equilibria (that have to be kept at the lowest possible level – which also, if not above all, depends on the other side), deterrence, and the composition of the military instruments – all these are issues that relate to the broader ambit of "military policy".

It is the outside world, then, that has to become more inquisitive, to learn something about the fundamental technical issues from the "experts" themselves, so that they can approach the problems correctly for themselves, leaving the authorities with their constitutional duty to make all the due political assessments.

Then there are many other areas, such as the way we live, what we do, how we train, what

Alpini at a snow measurement station belonging to METEOMONT (avalanche surveying and information service). The 4th Alpine Corps is responsible for the METEOMONT service in favour of those who live or travel in the mountains. Its information is sent to all the agencies requesting the data they gather and process. During winter, it supplies the information which is then broadcast by RAI.





constraints we work under, what career prospects are open to us, and how we achieve them: all this has to do with the broader ambit of "the military status".

It is up to us, inside the Institution, to speak to the outside world about these, to create a public awareness of our personal and professional problems, to correct the widespread disinformation that exists, to shoot down the silly slogans, and to earn the public's appreciation of what we are and what we are worth.

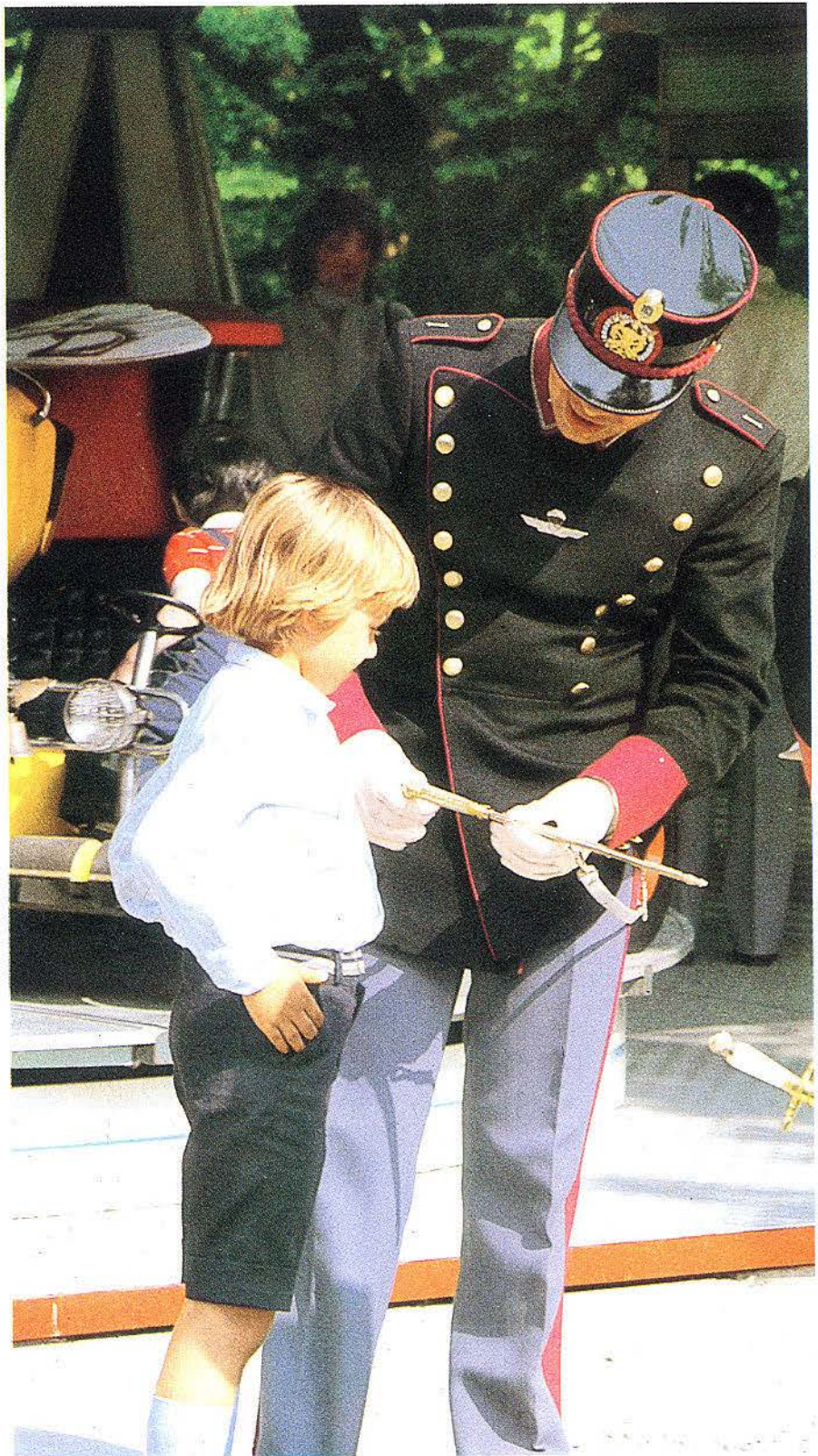
Basically, there are no mysteries. We do what we are supposed to do: work to give "credibility" to an "instrument" that is at the service of the country, for the loftiest ends and for essential duties.

As I said before, this work involves training, practice, study: all geared to the use of the instrument.

At various levels, with increasing responsibilities, we have to study, plan and programme in order to be able to better manage the ever-widening spheres in this organization which is one of the largest, well-articulated and complex organizations in the country.

And we have to do this in the face of difficulties of all kinds, and often without the unflagging support of a section of public opinion.

This demands a high level of professionalism of a very special kind. I would even go so



A cadet from the Modena Military Academy.

The Army Officer Cadets attend an undergraduate level course for two years, before being promoted to the rank of Second Lieutenant.



far as to say an "all-round" professionalism. And this also deserves recognition, which it often does not have.

Not a professionalism that brings with it caste privileges, but the satisfaction of contributing to the security and the welfare of the whole community, based on the spirit of service, which is the driving force of any advanced democracy that wants to keep moving ahead.

Perhaps there is another question one might ask: "What do reporters do when they are not reporting?"

They should be busy collecting interesting, well-documented news and information: the very news and information that we military men would be more than happy to give them whenever they care to ask for it.

We would be insulting the intelligence and the common sense of the Italians if we – the men who live enthusiastically in the Institution striving to uphold high standards – did not long for the "quantum leap" that we have been advocating for so long: namely, the direct involvement of public opinion in the problems that are of relevance to us (military policy and security, the military status, efficiency and credibility).

Personally speaking, I would prefer not to have to answer any more questions from people who seem to have suddenly "discovered" the existence of a respected profession that has existed for millennia, a national organization that affects hundreds of thousands of people, each one with their own personal and social aspirations. I would prefer not to have to answer any more questions that place in doubt the very existence of the "military world", and which are designed solely to restrict the exchange of news to superficial generalities, with a zero information content in



practice. And this has now become fairly standard practice, and even where it is not intended, the effect is still the same.

Let us start admitting that the military Institution, despite its shortcomings that we have no wish to plaster over, is working with dignity – with great dignity; that it is a machine, more complex than any other, driven on by an engine – a powerful engine that works and which, above all, never leaves the driver stranded. To improve its efficiency is our duty, not to say the essential source of satisfaction and professional pride. But it does not depend on us alone; the others also have to give us a hand. This means that the debate needs many speakers on all sides.

A debate of this kind could, in my opinion, do a great deal

Transmissions Specialists checking a radio relay station.

These facilities are connected to the civilian system so that when a natural disaster occurs, all the civilian and military intervention forces can be coordinated to undertake relief operations.

to make us better known and understood.

But even here, there is something I should like to say quite plainly: in a democratic country like ours, in which the basic economic law of supply and demand is the order of the day, if people want to know something all they have to do is ask. If there had always been such keenness to find out about this component part of the country as there is today, it would have been satisfied long



Engineers erecting a bridge to make the road system viable.

ago, largely thanks to the mass media which are always so anxious to cater for what public opinion wants.

But apart from that, anyone who wants to find out what soldiers do, how they train, and what useful purpose they serve, only needs to read our own publications, some of which are more specialized than others, in which we make no bones about what our realities are, and the problems we have, without mincing our words and without ulterior motives.

Then there is the more direct approach, by questioning the present and past members

of the Armed Forces, even those working at the lowest level. But these direct approaches should not be conditioned – as they often are – by an *a priori* sense of rejection on the part of representatives of a fully-fledged subculture that does so much to penalize us, since its origins are to be found in an atavistic incapacity to rise above selfish personal interests and to show a genuine spirit of solidarity towards the other members of society who have superior interests to protect and defend.

But even here, we must not hastily over-generalize, and lose our objectivity by taking individual cases to be representative of the whole.

The first question to be asked should be designed to find out how, and to what degree, these present or former members of the Armed Forces, or bodies or units belonging to the

Armed Forces have helped, or are helping, to enhance the overall viability of an Institution that is an essential part of the very fabric of the nation. And the question should be asked with a "social sense".

If this information were collected and examined patiently and painstakingly, the real picture that would emerge would be quite different from what some people – deliberately – try to make it out to be. And this would not require the investigator to indulge in half-understood sociological acrobatics.

It is evident, though, that there is a greater demand for information now that the military Institution and Society are coming closer together. A demand that requires exhaustive responses, and above all, clear answers to clear questions.

And this is where the press is hamstrung, unless it is asso-



ciated with radio and television broadcasting facilities, and even the high honour of the cinema screen and fiction.

The increased curiosity about the military world makes it necessary, not only for those of us that belong to it, but for the whole of the mass media, to help increase the quantity and improve the quality of the information available.

For the Institution, the only problem is how, not what.

Ethical reasons and questions to do with our image prevent us from "selling the Army" like a consumer commodity (with advertising spots and similar schemes that have been used in the United States, for example).

The Army is, and remains, the custodian of traditional and moral values. It has its own style, which must be respected. Apart from this, there is the maximum openness to any form of dialogue not only with the press and representatives of the mass media, but directly with the public through current affairs programmes and the radio and television.

It is to be hoped that the demand will be such that we can provide ever more balanced and substantial information.

We are playing our part, and will continue to do so, willingly and courageously, placing ourselves there for all to judge, with all our authenticity, as we are, for we have the institution-

al duty to perform a function which requires us to work **in society, with society and for society** – to put it in a slogan that I love repeating.

But apart from these considerations that have to do with technical/functional aspects of our commitment, which have to be known before there can be any real relationship between the Army and the country, there is something else that has to

Whenever a disaster strikes, the Military Medical Corps is always in the forefront, bringing relief to the civilian population and setting up field hospitals.



brought out, appraised for what it is worth: namely, the "fallout" of the military service experience, in terms of its educational value to the citizen of a modern democracy.

In a period that is certainly not subject to suspicion – I am referring to August 1969 – a collaborator of mine, Infantryman Giancarlo Bergamini, in an address to his comrades in arms who were about to be demobilized (of which he sent me a copy as his former Regimental Commander a few months earlier) said this: "We have learned, through our difficult daily experience of the aspirations, the opinions, the criticisms and the ideals of the young conscripts, enabling us to form a more objective, cool and adequate judgement of the way we see things, to enhance the qualities of character, and moral personality.

"But this maturity process is not magical, and cannot take place without creating a crisis in ingrained mental habits, and the petit bourgeois parasitic featherbedding that is so dear to some. It demands direct, responsible sharing in the most humble tasks, and making flexible and intelligent use of the human intellect and human sensitivities.

"It means becoming a new man, experiencing continual self-fulfilment, which everyday life in the barracks very often helps to deepen and render more precious".

And recalling the contribution made to this end by enlightened Commanders, he added: "But if the work of these men is to be truly effective and have

lasting results, we must show our active solidarity, and the whole country has to show its understanding and lend its disinterested support.

"But above all else, the country's civic conscience and political awareness must mature and advance more decisively.

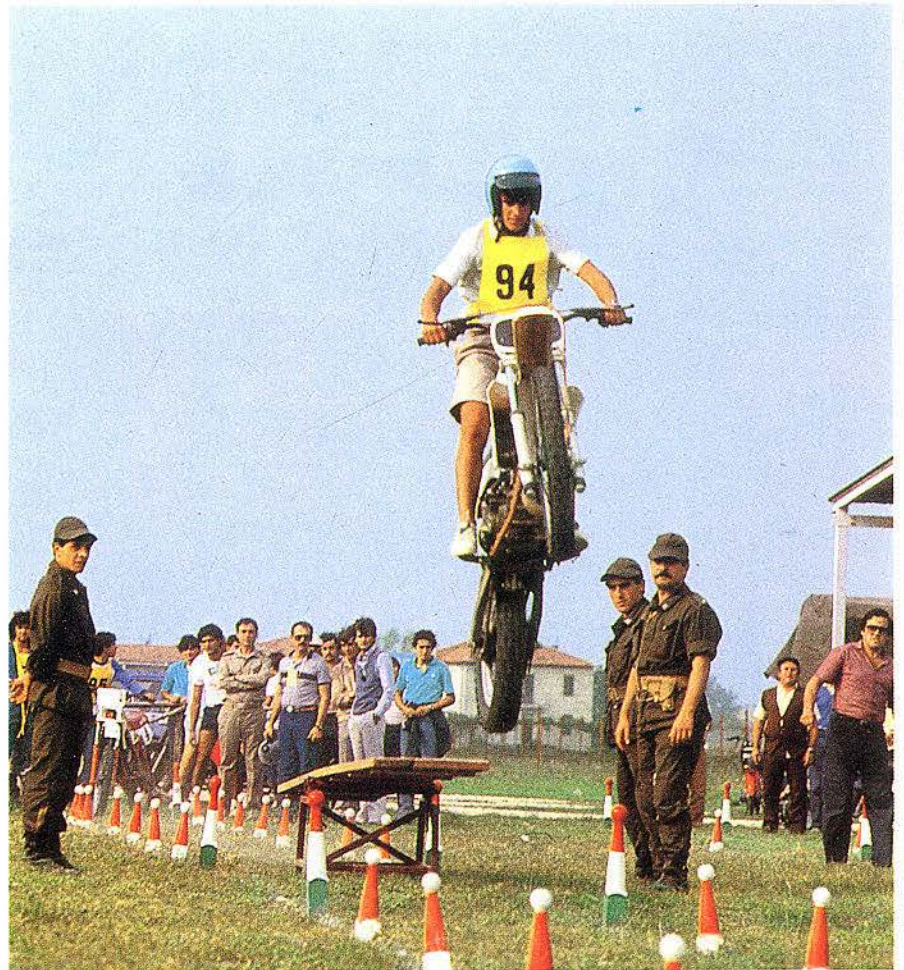
"These are the ideas with which we are inviting you – Infantrymen of the II 1968 Contingent – to become the ambassadors of the real needs of the organization and operation of the Armed Forces to the public at large and the political parties, and to bear clearly in mind the close bond that exists between solving military problems and the general renewal of the Community. This is the reason why

everything we do in civilian life will also foster the democratization of the Army and adjusting it to meet the needs of a society – like Italian society – which is moving ahead along the path of far-reaching and profound economic, technical and spiritual changes.

"Today's service moves ahead in this way, and receives new promptings from the future ...".

Well, even without Lebanon, even without the Army's intervention at times of disaster, and apart from the daily training and the commitment to acquire "credibility", this is something else that the Army does.

And it is of no small account.



One of the competitions in "The Army-Sport for Youth" event.



Are citizens informed about defence problems?

Luca di Schiena answering

Information is scarce, often distorted, still conditioned by remains of a pseudo culture that, stemming from schematic concepts for which militarism means fascism, the Armed Forces' aim is aggression and war means defeat, has pictured, by his stubborn prejudices, Institution and military organization as a kind of demon.

Moreover, values of hierarchy, uniform, salute, have been devaluated; there is nearly a sense of shame in passing dressed in uniform along the city streets.

Those ideas have dominated and conditioned public opinion, augmenting endemic rejection for military service tolerated as a suffering, a punishment, an infection and, in the best of cases, as an harmful waste of time.

The military Institution, on its part, has not been able to set the equation "Army = social duty = constitutional obligation" against the slogan "Disarmament = Peace". It has also failed to stress the fact that arms can affirm values of progress, culture and peace.

Instrumental lack of information has thus not been fought by efficient counter-information.

Peace expeditions in the Middle East or help in occasion of natural calamities are not enough.

The real, inexpensive information is based on involving military people in the reality of the Country, out of the barracks enclosures.

The real problem is isolation: the Army, once a privileged

and envied caste, has nowadays become a no-prospect profession.

In fact, people ask: when they do not go to Lebanon, when disasters do not occur, when their intervention is not requested, what do the soldiers do, how do they get trained, what are they there for?

What does military information answer to these questions? How does the military Institution react?



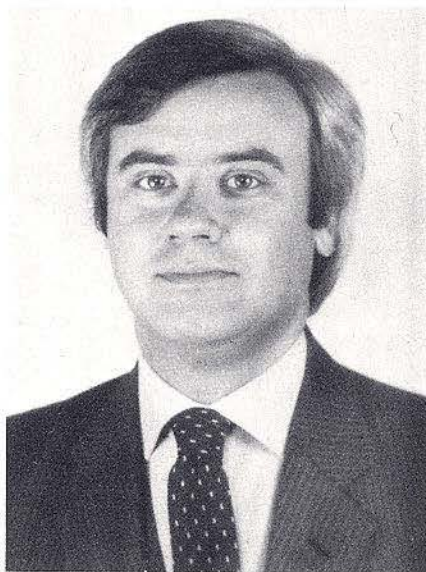
Luca di Schiena has a degree in law, he teaches journalism and writes about history and literature. He is part of the RAI staff since 1944 and has been responsible for the 1960 Olimpiads radio T.V. broadcasts; president of the Cannes direct linkup transmissions international competition, adviser of the pontifical commission for social communications; responsible for programs about Vatican II Council and Pope's trips until 1967; European producer and reporter for satellite programs; head of the press service, director of training for radio and T.V. reporters, director of radio-T.V. broadcasts from the Italian Parliament. He has been awarded several Prizes among which the Cannes Prize (1965) and the St Vincent Prize (1967). He has been superintendent of Rome's Opera House. He is now moderator in the transmission "Tribuna Politica", president of U.C.S.I. and director of a national T.V. broadcast (TG 3).





Is public opinion interested in defence problems?

Giancarlo Mingoli answering



Giancarlo Mingoli was born in Rome on 6-4-1948. He has a degree in law and has been a professional journalist for nine years. He reports news concerning justice, defence and school for a national radio network (GR 2). Four years ago he made a serial enquiry called "Serving in the Army today". He interviewed military personnel by visiting barracks, training, schools, air bases and ships. It came out an image of army life interesting mainly for its reflections on civilian society. In April last year, he held a conference at the Military Academy of Modena on press and Army relations. He is now one of the GR 2 conductors. He often takes part in debates and conferences about justice. He was awarded the "Premio Noto" (Siracusa) for judicial journalism, for his reports on the "Moro" and "7 aprile" trials and on organized crime.

On Sunday, November 4, 1984, several thousand people were present in Rome's Quirinale Square, at the changing of the guard "on open air" between the Modena Military Academy Cadets from the 165th course "Fierezza" and the Granadiers from the "Cengio" battalion. The ceremony, reminding that of London's Buckingham Palace, is preceded by a parade along the via XX Settembre of the unit which is to mount guard, and takes place every second Sunday of the month. In November has been anticipated because of Army Day.

One hour before the changing of the guard, Quirinale Square was already so crowded that policemen had to close the traffic in the area. The centre of the town has been jammed with traffic until late evening.

Beyond the call of an event like that, the presence of so many people has not been surprising. In several occasions, starting from the re-established parade on Republic Day, we have had, in the recent past, evidences of a strengthened tie between citizens and Army. The wide participation in the Quirinale ceremony has stimulated comments in the people present: "Times have really changed – said a lady –. At the beginning of the 70s, during the youth protest movements period, all these people would never have come. We have re-discovered ancient values we had long forgotten, if not repudiated".

This remark illustrates very well the different situation of

today's relationship between society and Army, compared with that of fifteen-twenty years ago. The consents gained by Italy for the Lebanon operation have contributed to a better approach between the Country and its Army after periods of divisions and incomprehensions only. And newspapers, with their increasing interest in military subjects are a valid way of making public opinion understand the actual changings in the military world.

Moreover, it is undeniable that it does exist a special military culture which includes, together with strategic thought, economy, law, sociology, history, technology. A culture bound to progress if the dialogue between the two worlds will consolidate by overcoming those obstacles, also of ideological nature, which still exist and certainly do not facilitate a mutual understanding.

CIVILIAN SOCIETY AND ARMY BETWEEN 1950 AND THE BEGINNING OF 1970

Twenty or thirty years ago, the ties between the two worlds were not as strong as they are today. The social context was different. Those generations did not have the chances of the present ones, more and more compelled by progress to enlarge the frontiers of knowledge, industry, home and foreign trade. It was just after the war and people had to put up with several restrictions. If I remember well, newspapers used to talk about Armed Forces on the occasion of the 2nd of June parade, military celebrations, swearing-in-ceremonies and some exercises. If we compare those years with nowadays, we can say that at that time the exterior aspects were pri-



THE CHANGE

The situation starts changing in the middle of the '70s. People look at the Army with new attention. It is an inverted tendency corresponding to what the Army Chief of Staff, General Umberto Cappuzzo has defined the Army's inversion of image. General Cappuzzo outlines the new soldier's characteristics: "open to the outside world, dynamic part of reality, attentive interpreter of terms and ways by which he can contribute to realize the Country's security and defence within a frame of real participation". Which are the factors helping changes in the Army and civilian society relationship?

First of all, the rediscovery of traditional values (family, religion, State) which had also brought a revaluation of military ideals. Citizens are more in contact with institutions through a serious ideological and political debate which has contributed to a greater sense of democracy.

Another cause for the change has been the new kind of men in charge of the Army, men open to the outside world, sensitive to social transformations, ready to acknowledge their significance and weight; men engaged to give modern features to the Institution, an image up to the time.

First, the Army assistance during public calamities, then the Lebanon mission have pushed forward the process of change.

ARMY DUTIES TO IMPROVE THE DIALOGUE WITH THE CIVILIAN SOCIETY

For the reasons we have just said, that are at the basis of the military institution's restored consent, it is necessary to clarify the Army's duties and functions.

When we talk about defence and security, people often think that our Army still wants to

villeged. I honestly do not think of having read as a student many reports on military condition, on *our army's role*, on its cadres' formation and expectations. Which causes have determined in the past the scarce interest towards the military Institution?

Firstly there are *historical causes*.

In the post-war period, the desire to forget soon the defeat grows. To many people, uniforms evoke moments, situations they want to cancel from their mind. In spite of our soldiers' heroic behaviour during the liberation war, the trust in the Army is not very high.

Anti-militarism builds up and it goes on expanding between the '60s and the beginning of the '70s, when the youth protest movements are born and traditional values (family, religion, country) undergo a profound crisis. Protest movements do not even spare barracks.

Those are the years when violence is being theorized. Protest movements proliferate; terrorism is born. Innocent blood is shed through slaughters, murders, woundings. In spite of several magistrature and police successes, the defeat of subversion is not yet at hand and there have been and still are signs that keep us alert. But we also have

another major aim: the fight against organized crime. Important results have been obtained also in this field; but there is much to be done. To make the phenomenon "withdraw" we must go on fighting with the same strength and mobilization that permitted us to defeat terrorism.

I had mentioned anti-militarism as one of the causes of poor dialogue between civilian society and Army. Moreover the hostile attitude is bred by deviations of military high officers. The Army's democratic spirit is doubted, and as usual only a few are able to separate good from bad and avoid to reap the tare with the wheat.

On the military side, contribution to make things clear is lacking. The attitude towards the outside world is one of closing or timid opening; that leads to the definition of the military institution as a caste.

Some military refuse any kind of contact with the civilian society and, perhaps because of their education, are not inclined to understand the outside world. Some others, although showing an open mind towards the outside, react to the depreciation of the military institution by deciding not to open to the civilian society.



make war. There could be nothing wronger, because our engagement is for peace. "Fighting for peace means doing best our to avoid that others try to attempt at our freedom, that is at our peace". So general Cappuzzo wrote in this magazine two years ago, explaining the concept of Army at the service of peace. Consequently we need to have an instrument able to discourage possible aggressions. I like also to remember Jean Paul II's words on the Army Jubilee Day: "Your force is necessary for the welfare of your fellow citizens, for your Country's security, for the common good of home and foreign peace".

In that occasion, the Pope said that choosing military life is the effect of *vocation*.

Other professions, as journalism and medicine, if they are practised meticulously and with devotion, need the support of vocation and involve great sacrifices. But sacrifices (for instance continuous transfers) and responsibilities of the regular soldiers are different from those of any other kind of citizen, for the special duties that the Constitution commits to the Army: the Country's defence and security. Such duties are not easily accomplished: they need special psycho-physical aptitudes, a bent for command, and full confidence in Army ideals. In that consists the *atypical* characteristic of military institution.

This atypical characteristic does not involve separation, but only specific duties compared with those of other social structures. People called to accomplish these duties come from the same society that has formed, and is still forming, traders, engineers, clerks, mechanics, and so on. This atypical characteristic is part of society and is not in contrast with the attitude to dialogue and opening to the outside world.

THE USE OF THE WORD "MILITARISM"

Unfortunately, for many people, today as in the past, backing military Institution was, and still is a, synonym for *militarism*. Well, if a word has been misused that is the word "militarism".

Militarism means degeneration of the military state or predominance of the military organization in the life of a Country. The democratic ideals rooted in our Army are not to be discussed. They are at the Republican Institutions' service. Their task is not to prepare a privileged class, and to place themselves over the Country's law, but to serve all citizens without any difference.

And when, during these years, there have been doubts and perplexities, we have at once made a clean sweep not to leave shadows of doubt and to reaffirm the strength of the democratic ideals.

HOW TO IMPROVE THE RELATIONSHIP

To overcome the still existing incomprehensions and prejudices against the military, our engagement as journalists is needed. As I said at the beginning, newspapers, radio and television talk a lot about the Army. It is important to improve the information by a more careful attention to Army problems and needs. People do not remember soldiers only on the occasion of parades and other military ceremonies. They are not satisfied with appearances and they try to understand how the Army works, the way it adapts itself to home and foreign society changes, what its condition is the way it places itself in front of growing strategic needs, also within the context of the East-West relations.

It is evident that to give an answer to these and other questions, journalists must be informed in their turn. We must say that a lot has been done by the General Staff to open to the press by a continuous contact with newspapers and mass-media.

We must now improve the quality of the dialogue, organizing periodical seminars, conferences, debates for journalists specialized in defence problems. These initiatives can contribute to build a "culture of security" in public opinion, to give citizens an answer about the basic themes of national defence. Those meetings could also be useful for overcoming the military's ancient mistrust towards the press. A frequent exchange of ideas and views might help to clarify things and remove any kind of obstacles. The role itself of the Press Officer must be emphasized. Not all the Officers agree on that, because they fear a "reduction" of the military function. But, with the assumption that an Officer is a man of his time, he cannot remain detached from society and must hold the contacts with the press in the right consideration because they represent the direct way to communicate with the outside world.

I suggest, in fact, that Officers be prepared to have contacts with the press from the beginning of their careers, to avoid later difficulties if eventually they have to assume a duty in the service of military public information or in the General Staff departments for promotional activities and documentation.

To conclude, in the light of recent years' improvements, we can say that Army-Press-Society relations are bound to settle on more secure basis; but it is important to apply those correctives necessary to achieve a change of quality.

OUTLINE OF THE POLITICO-STRATEGIC EVOLUTION

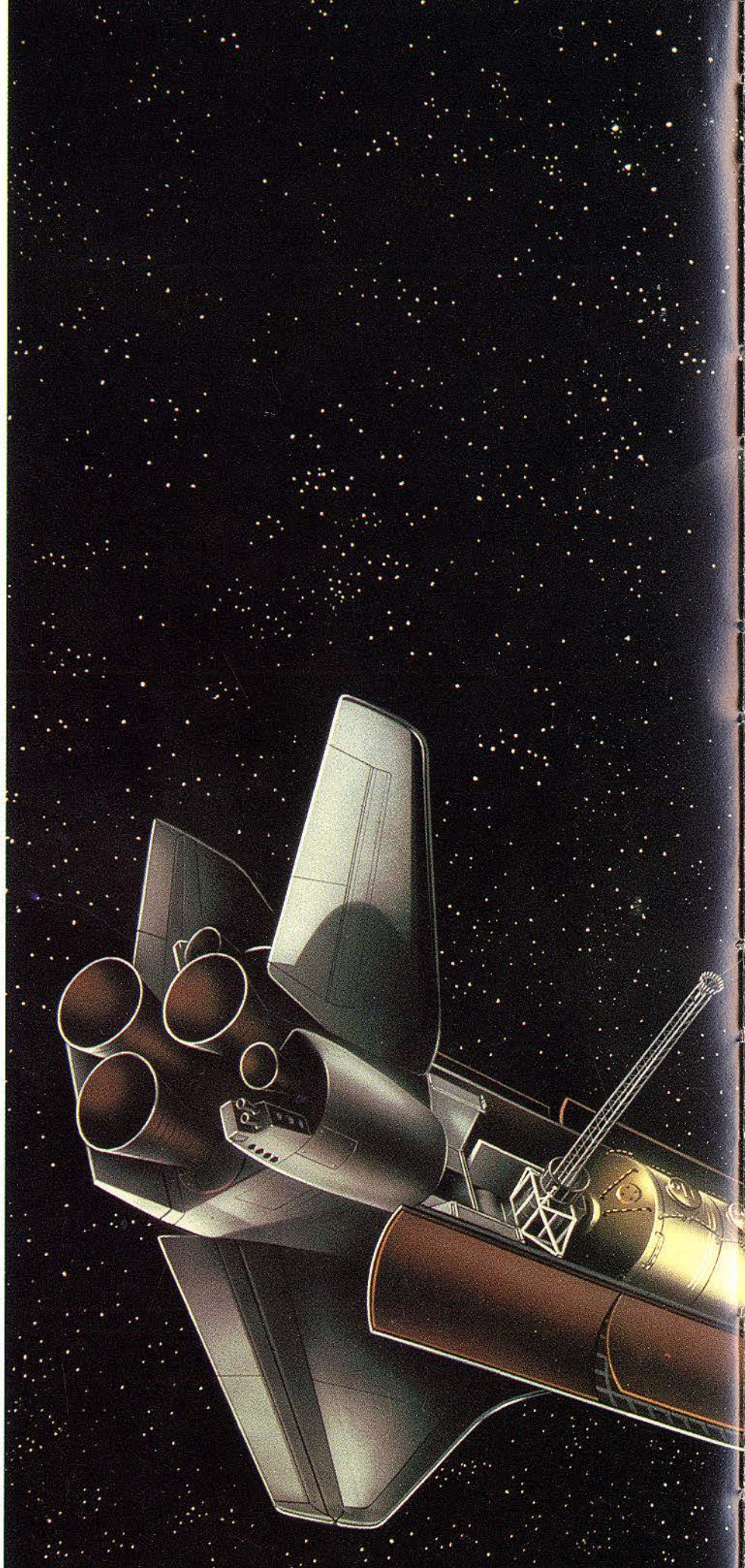
The possibility to cause instantly enormous destructions with nuclear weapons – even if employed in a limited and selective way – as well as the losses deriving from a possible employment of the modern biological and chemical weapons, and the possibility that large areas could be contaminated, have had a determinant influence on the evolution of the doctrines of employment of the two super-powers' armed forces and, consequently, of their allies, influencing the whole world policy, from 1945 onwards.

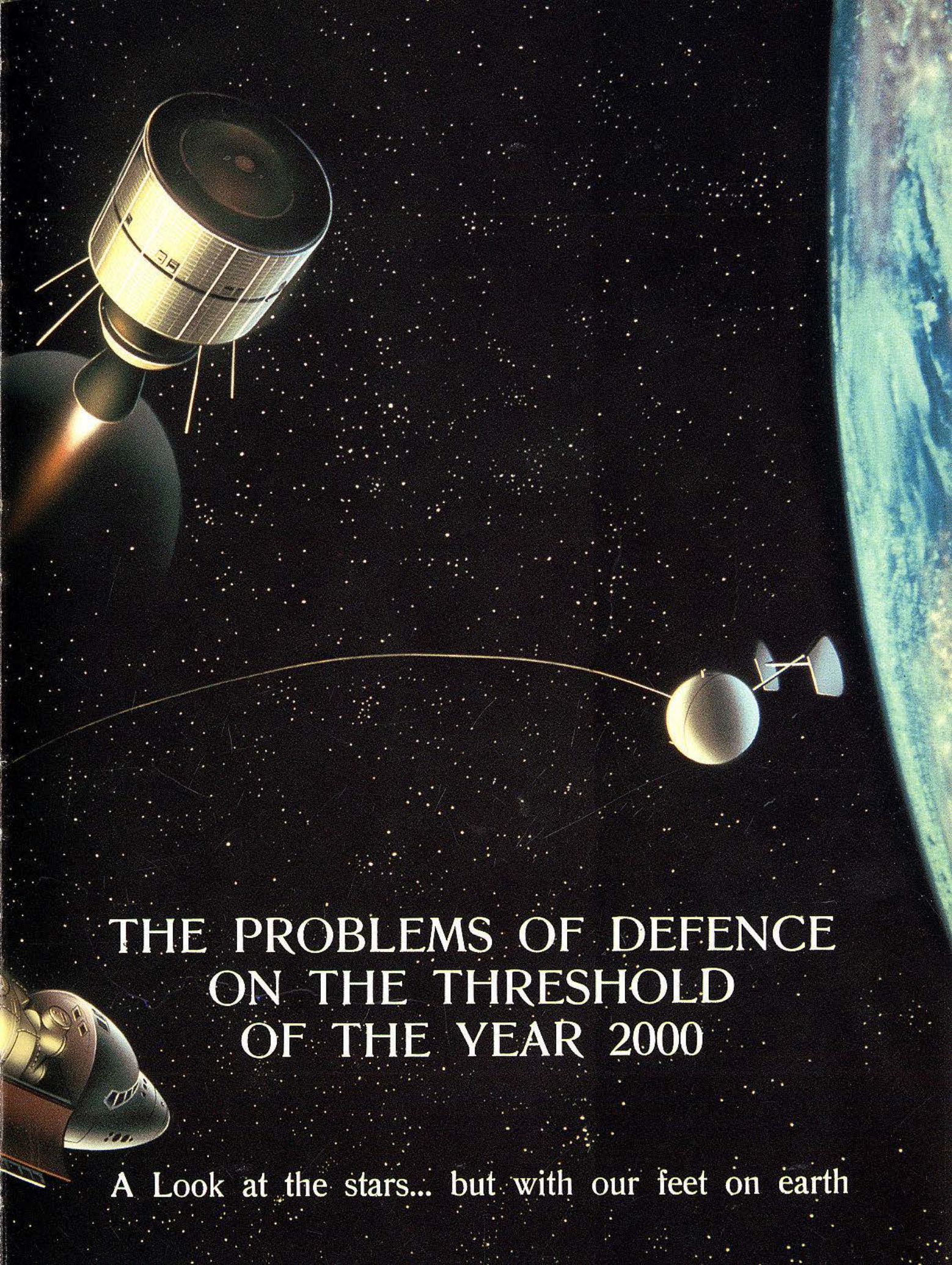
Since the distant April 1949, date of birth of the Atlantic Alliance, NATO's defensive strategy – though evolving and continuously adapting to the defensive instruments as they were introduced – has been based on the principle of **deterrence**; a principle that can be considered valid since, for 35 years, it has been able to keep peace in Europe.

At the beginning, in order to reach this goal, the strategy adopted by the Alliance was based mainly on the overwhelming nuclear superiority of the United States, to which corresponded a clear inferiority of NATO's conventional forces compared with the Warsaw Pact's.

In this context, the only way out seemed to be that of discouraging the hypothetical enemy from undertaking aggressive initiatives, threatening an immediate response with the employment of the whole US nuclear potential. This is how the **strategic doctrine of massive nuclear retaliation (or total nuclear response)** was born.

A first change in this strategy took place around the Sixties, as a consequence of the technologic progress made in the West as well as in the countries of the Soviet bloc; a progress that had upset the





THE PROBLEMS OF DEFENCE ON THE THRESHOLD OF THE YEAR 2000

A Look at the stars... but with our feet on earth



foundations of the strategy of massive nuclear response. The USSR, by then, had at its disposal new means of nuclear intervention, such as the intercontinental missiles installed on nuclear submarines or on sheltered launching ramps, which allowed the weapons to survive a surprise nuclear attack and respond immediately.

After the first strike the two superpowers were therefore in a position to retaliate, i.e. to deliver a second strike.

The theory of "nuclear parity" with the Soviet Union, which got some footing after that, was formulated by the American Secretary of Defence of the time, Mac Namara. According to this theory, if the two superpowers were to maintain a quantitative and qualitative balance in the respective nuclear armament, they would have neither interest nor advantage to assail each other, for the result would be "Mutual Assured Destruction" (MAD).

This situation questioned again the credibility of the strategy of massive retaliation and also the hypothesis according to which the most probable

form of conflict would be a general nuclear war. Consequently a new and more flexible strategic doctrine was introduced: the present doctrine of flexible response and advanced defence, i.e. a strategy of "appropriate" reactions, gauged, in time and space, to the type of aggression.

As is known, also this doctrine is based on the concept of dissuading the hypothetical aggressor and, in case, to contrast his attack on any member of the Alliance using a well balanced complex of conventional, tactical nuclear and strategic nuclear forces (Triad), capable of giving a wide range of responses in the framework of a "spiralling" controlled from the politico-military point of view.

At the beginning of the Seventies (1972-1973), the theory of "nuclear parity" led to the stipulation of the SALT-1 (Strategic Arms Limitation Talks) and to the following negotiations. But these agreements and the "balance of terror" – which postulates its effectiveness – have, little by little, lost their validity and, as a consequence, reposed the problem of

The B-52G long range heavy bomber is still in service with the USAF, in spite of its 12,000 flight hours. Its maximum speed is 1,011 km/h, its range 16,300 km. Instead of conventional bombs, it can carry 8 free-fall nuclear bombs or 20 ALCMs (Air Launched Cruise Missiles) with nuclear warheads.

security in different terms when, as it happened from 1979 onwards, one of the two contracting superpowers – the Soviet Union – has increased, not only in number but also in quality, its nuclear potential (nuclear overtaking) with the entry into service of the "SS-20" missiles and "Budget" and "Backfire" long range bombers (and today there are talks about the "SS25", with a range of over 10,000 km) and has devoted greater and greater resources to the conventional forces buildup. The difference between these and the similar NATO forces has increased in the last few years by about 50%.

Although the experts say that the balancing of forces should not follow the "one for one" philosophy (tank for tank, aircraft for aircraft), from the

evaluation of the situation it has been inferred from many sides that the Alliance's military potential destined to face the threat is declining, and equally decreasing is the **credibility of deterrence based on the strategy of flexible response**. Hence the need to re-assess the concepts of defence, thinking ahead to the year 2000. Within this framework the US Army has formulated its new doctrine: the "Airland Battle" and its long term projection (Airland Battle 2000), the so-called "Rogers proposals" worked out in the ambit of SHAPE (Supreme Headquarters Allied Powers Europe), aimed at "Europeizing", that is, at extending the Airland Battle's principles to the European countries of the Alliance and, finally, the "Strategic Defence Initiative" (SDI) known as "Star Wars" to the public at large.

These initiatives have given rise to heated debates – still very intense – both at public opinion level and among the experts of military policy on both sides of the Atlantic.

This should not be a surprise, for whenever there have been "requests" for a "substitute strategy", there have always been more or less heated de-

bates and discussions – at all levels – regarding the basic motivations for the change of strategies. This happened at the time of the transition from the strategy of mass retaliation to the present strategy of flexible response. And it happens today vis-à-vis the new initiatives, albeit the Atlantic Allies' attitude has been different in both instances.

In fact, the change from the previous strategic doctrine to the present one of flexible response and advanced defence had been accepted and agreed upon by all member countries of the Alliance (except France) because all had rejected the strategy of mass retaliation. On the contrary, today it seems that the European members of the Alliance do not recognize the need for a substantial change of strategy, because they are convinced that **there are no valid alternatives to the present strategy of flexible response**, which as previously mentioned, continues to effectively play its rôle as a credible deterrent. We could say, anticipating a few concepts which we shall develop later, that the European members of the Alliance, while on the whole they seem scarce-

ly ready for a substantial change of the present strategy – as said before – are, on the contrary, more inclined to review or, better, to adapt the present operational doctrine in order to keep step with the new technologies and with those which will foreseeably be introduced in the next years, both within NATO and in the Soviet bloc.

NEW DOCTRINES

AIRLAND BATTLE

The 35th Session of the CASD (Center for High Defence Studies) has made an in-depth and detailed survey of the Airland Battle doctrine.

Therefore I shall just recall a few fundamental elements of

The nuclear-propelled "Constellation" aircraft carrier and the "Leahy" missile cruiser, about to refuel at sea from the fast supply ship "Niagara Falls". The "Constellation's" displacement, at full load, is 80,000 t, and its speed 33.6 knots; it carries 80 airplanes and 8 helicopters. It is armed with three octuple launchers for "Sea Sparrows" surface-to-air missiles, and three 20 mm "Phalanx" systems.





this doctrine and of the "Strategic Defence Initiative" in order to express some new considerations – without having the pretension to be saying anything – or anything much – new regarding the implications of these strategies on the defence problem in Europe in general, and in our country in particular.

The Airland Battle:

- it is a new operational doctrine, worked out, as we said, in the United States, already adopted by the US Army and to be fully applied by 1986;
- it is a doctrine which concerns all operational theaters (continental and maritime) in which the US forces could be employed;
- it is part of the long term planning of the US Army, which embodies some of the so-called "Maritime Strategy", as opposed to the "Continental Strategy" followed up to now. As is known, the latter envisages the deployment of a substantial part of the US Armed Forces in the

areas directly threatened by the Soviet bloc; the former considers instead the stationing of the bulk of the US forces in the American territory and their rapid transport, by air and by sea, to the threatened place. In order to reduce the transportation costs and to speed up the units' flow, they would find the necessary materials and supplies already in the area;

- it has the purpose of putting the airland instrument in a position to quickly take and keep the initiative by means of offensive and/or defensive actions aimed at concluding the military operations from positions of force, in view of the subsequent political settlement of the conflict. This is based on the assumption that without military results it is impossible to start profitable political talks;
- it postulates the indispensable cooperation with the air forces, in all the traditional tasks of direct and indirect participation in the actions of the land forces;

British Army "Scimitar" combat and tactical recce vehicles, during an exercise in Norway. The "Scimitar" has a 3-man crew and weighs 8,7 t. Its Jaguar engine gives it a maximum speed, on road, of 80 km/h and a range of 644 km. The turret, for two men, is armed with a 30 mm "Rarden" gun and a 7.62 mm coaxial machine gun.

- it finds its concrete expression in the so-called emerging technologies (equipment for the survey of the battlefield and for the acquisition of objectives, arms for area saturation, guided precision weapons, command system, control and processing of data capable of reducing to a minimum the time of discovery and offence of the located objectives systems for electronic warfare and countermeasures, etc. ...);
- it revives a more reactive strategy, with more initiative compared to the past, and at the same time more credible, owing to the clear willingness to strengthen the instrument necessary to guarantee our security;

- it is hinged on the western world's elements of force such as the technological superiority and the greater flexibility and resilience of our "forma mentis";
- it aims at overcoming the so-called "crisis" of the strategy of flexible response;
- it has been shown and proposed to NATO, like the Airland Battle 2000, as a possible guide for modernizing the Allied forces and for the conduct of operations in the 21st century;
- it outlines a type of defence mainly oriented towards confronting an attack after the Soviet model, characterized by an overwhelming superiority of mechanized and armoured forces, which permits to keep out of contact a substantial number of forces with which the defences engaged at the front can be supported and/or out-flanked.

As a consequence the new doctrine provides that, together with a close action (close-in

battle) meant to stem the forces in contact, an action in depth be developed (deep battle), with fire and also with "ad hoc" forces, against the rear enemy formations (2nd and 3rd echelon) not only in order to delay and prevent their manoeuvres, but also and mainly to seize the initiative and proceed to their destruction;

- it stems from the fact that the Western military power is declining, as we said, in all three components of the "Triad" (nuclear-strategic, nuclear-tactical and conventional forces) but especially in the conventional armaments, thus raising doubts about the credibility of deterrence.

In this context, a possible conventional aggression would force NATO to resort to an untimely employment of nuclear weapons, with the multifarious consequences deriving from this initiative. From this, the need for the West to modernize its conventional inventory using the

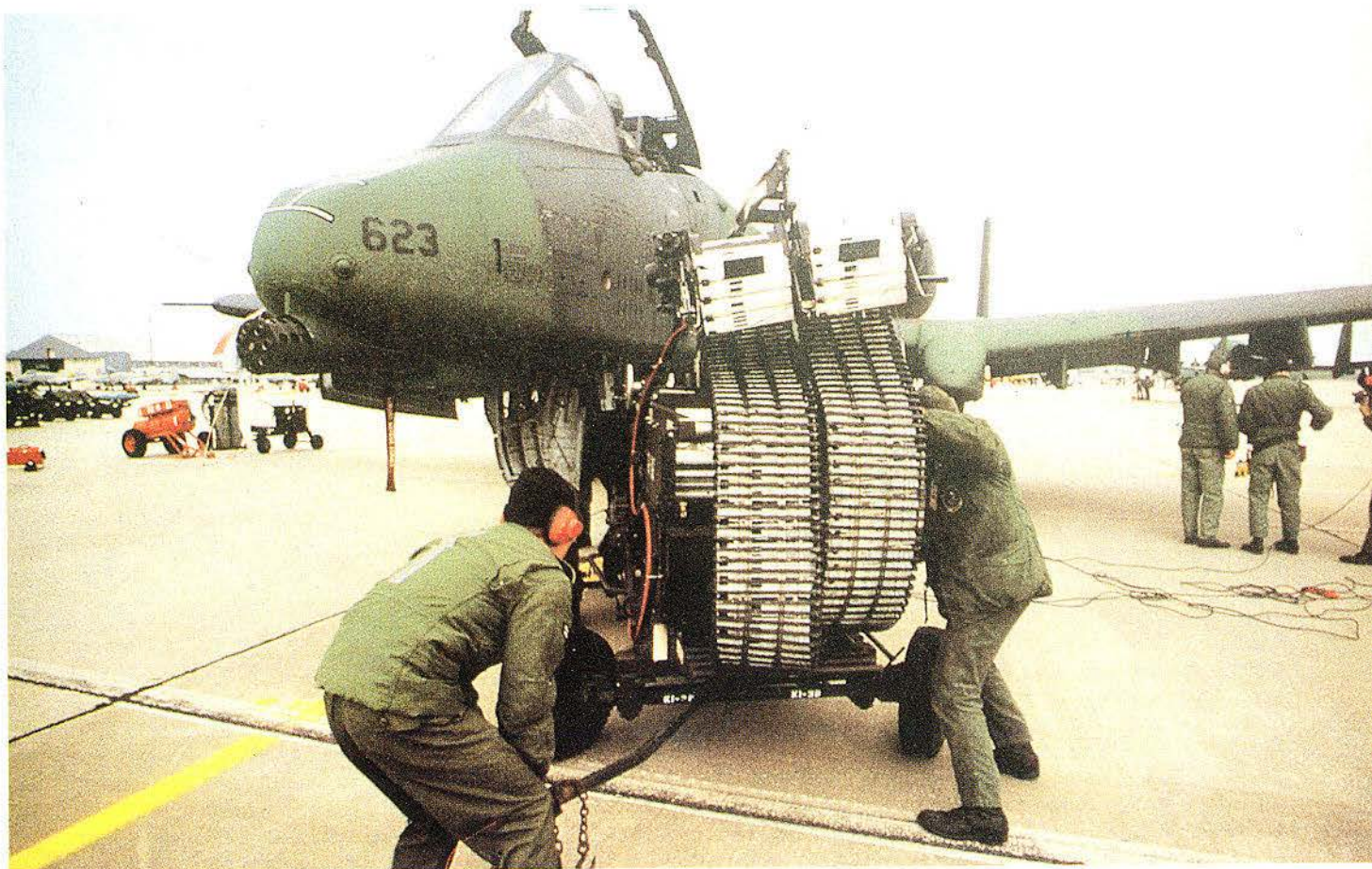
most advanced technologies at its disposal.

REFLECTIONS OF AIRLAND BATTLE 2000 ON NATO. THE ROGERS DOCTRINE (FOFA OR FOFI?)

The Airland Battle doctrine has raised perplexities and criticism, above all in European NATO, and in particular in the Federal Republic of Germany, the most concerned – for obvious reasons – about the strategic-operational changes that the new doctrine would

A ground crew reloads the ammunition magazine of the General Electric GAU-8/A "Avenger" 30 mm gun of an A-10 "Thunderbolt II" close support aircraft.

This powerful gun has seven rotating barrels, and can fire 2,100 or 4,200 rounds per minute; its rounds have a spent-uranium core capable of piercing the armour of all tanks in service at the present time.



involve if it were employed within NATO.

The doctrine must be credited with undeniably positive aspects, such as easing the limitations (or restraints) of the advanced defence which, as everybody knows, cannot exploit the space at the rear as a factor increasing the defensive power, due to the territory's scarce depth and the high concentration of population and industries – especially in Central Europe – very close to the frontier line.

On the other hand, the in-depth manoeuvre (in enemy territory) envisaged by the new doctrine is not devoid of a variety of implications, for this aspect would certainly be instrumentally exploited in order to make the NATO defensive strategy appear **aggressive and provocative** (including the charge of wanting to disguise a real preventive attack against the Warsaw Pact).

These polemics could shake the propensity, widespread among the European political leaders, to maintain a climate of dialogue and détente vis-à-vis the Warsaw Pact countries.

On the operational plane, moreover, there is a risk that the NATO forces' deep actions (i.e. also on Soviet territory) could induce the Soviet Union to have "justified" recourse to the employment of nuclear (and chemical) weapons, thus starting a nuclear war in Europe: exactly what the Airland Battle doctrine intends to avoid.

It is known that the European NATO countries attach great value to the deterrent contents, as compared to the defensive – or, better, operational – contents of the present NATO strategy of flexible response, whose effectiveness for maintaining peace is based essentially on the close connection between the US strategic deterrent and the European defences. This is based also on the conviction that a war limited to the European territory alone cannot be conceived: if there should be war, it could only be a general one and, as such, it



would inevitably involve also the two superpowers' territories.

Vis-à-vis the official positions there are also doubts and perplexities about:

- evolution of the Warsaw Pact doctrine: no more operational "echelons" deployed in depth, but strong pressure on the line of contact, in order to produce breakings in the weaker sectors, where more agile and highly manoeuvring formations could be thrown, in order to exploit success immediately (these are the "operational manoeuvre groups" formed by special units) (the Soviet Union is preparing and strengthening precisely its advanced forces);
 - effectiveness of the much extolled highly sophisticated weapon systems. They could turn out to be, high costs apart, commercial bluffs, whose effectiveness could be easily nullified by a cunning adversary. In the worst of cases, the "ET" (Emerging Technologies) could become a mass of expensive potential capabilities looking for employment. Moreover one should consider the limitations that an excessive sophistication of the systems can bring about on the operational plane, for, beyond certain limits, any increase in sophistication – far from produc-
- ing an increased operativeness – establishes an increased vulnerability;
- skepticism, both about the possibility of an effective and timely in-depth intervention on mobile targets and about the convenience of the immediate employment of "dual rôle" systems in their conventional form, due to the ambiguity of the signal and the possible nuclear retaliations;
 - actual possibility to bear the **enormous costs** deriving from the concrete application of the new doctrine. Actually, it entails the adoption of very advanced technologies which, if on the one hand lead to a global reduction of personnel and an increase in destructive power, on the other involve an amount of industrial and financial resources that the European partners of the Alliance could hardly sustain, and our country least of all, considering that the financial resources allotted for the next decade will allow us to attain only 80% of the objectives defined with the 1975 restructuring. Assumably, in the next five years, no European country will be able to substantially increase its defence budget: on the contrary, the resources destined to the strengthening of

Left.

U.S. self-propelled M247 "Sgt York". The system will be issued to the divisional anti-aircraft battalions, and is armed with two 40 mm guns derived from the Swedish "Bofors L70" gun, already in service, in the towed version, in several NATO Armies.

Right.

A Martin Marietta XM-712 "Copperhead" 155 mm guided projectile, about to hit an M47 target tank. The XM-712 can be fired by almost all the 155 mm howitzers now in service, and is guided on the target by a laser designator, which can be installed on the ground, on a helicopter, or on a remote-control aircraft.

Below.

A model of XM-712 "Copperhead", with empennage and wings unfolded. Its HEAT nose cone can pierce the armour of any tank.

ing for granted the strategy of flexible response and advanced defence, although with a policy of "no early first use" of the nuclear potential (which maintains a primary deterrent function), is oriented towards arresting the first echelons on the FEBA (Forward Edge of the Battle Area) and wearing out the second operational echelons, by means of the new weapon systems and the acquisition of the objectives in the real time permitted by the "emerging technologies".

FOFA will be the subject of discussions and it seems certain that it will shortly be approved by the Atlantic Council political summit. Also the last obstacle regarding only the ter-

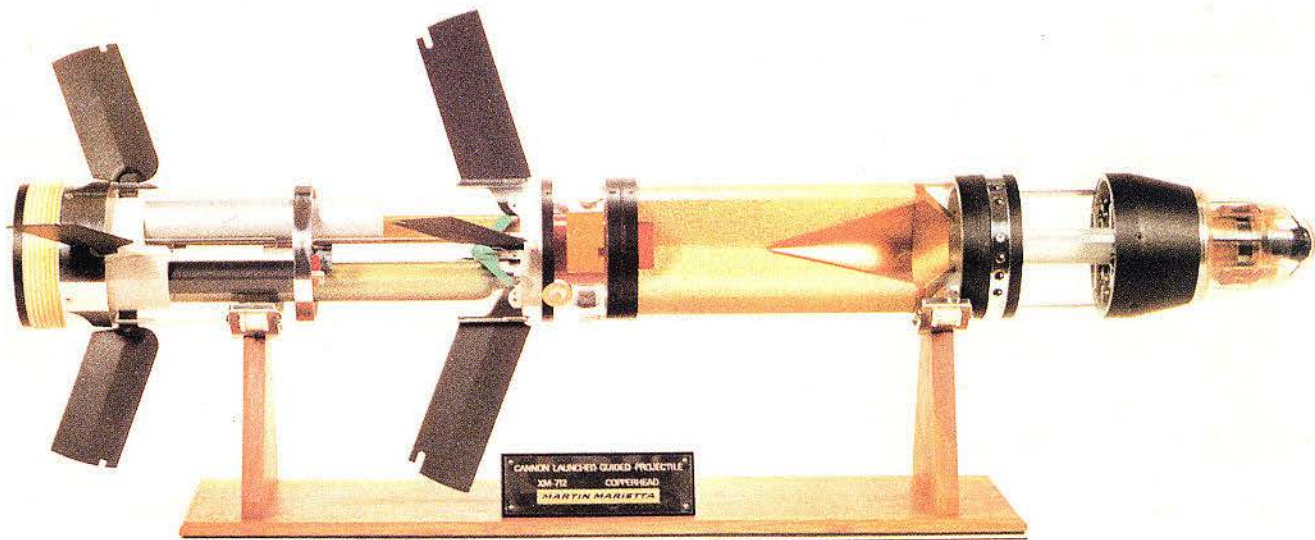
minology (but of conceptual importance) and meant to replace "Attack" with "Interdiction" (FOI instead of FOFA), has been overcome. FOFA will stay, even though – unlike the Airland Battle which envisages the employment in depth of counterattack forces up to 150 km beyond the FEBA – the in-depth action (about 400 km beyond the FEBA) will be carried out only by fire.

The Rogers doctrine, already operating, as far as applicable, in the ambit of SHAPE (Supreme Headquarters Allied Powers Europe), will have medium and long term reflections on the force goals and, consequently, on the technological evolution of the armed

forces will decrease, due to a sensible increase in the costs of technical personnel;

- convenience to employ a part of the air and land forces for the in-depth action (into the enemy territory), considering that the forces of European NATO are quantitatively insufficient or, at most, just adequate for conducting the manoeuvre of arrest in the border zone.

The American Airland Battle 2000, transferred to NATO, in the period 1983-1984 has become the so-called "Rogers doctrine" or FOFA (Follow-On Forces Attack). To synthesize the composite dialectic process within NATO, this doctrine, tak-



forces of the Allied countries, which will be responsible for the defence of Europe in proportion to the resources that each nation is able to invest for its security. Thus the gap in the operational capability will widen, in direct proportion to the amount of resources devoted to the strengthening of the military instruments (1) (2).

"STAR WARS" STRATEGY

Next to the Airland Battle, the US are starting research and development programmes on an anti-missile strategic defence system based in space; a programme labelled "star wars" by the American press. Its purpose is to avoid the "snares" of a future security entrusted solely to nuclear retaliation. This programme, whose exact technical denomination is "Anti-missile Defence by Energy Oriented in Space", is still in the phase of research and study in the United States, where ample technical and financial resources have been assigned to it (it has been said that, just for 1985, there has been an allocation, for this purpose, of 2 billion dollars, which must be added to the allotments of the last years).

This article does not have the purpose of explaining the technical features of these systems. We want to stress instead the fundamental concepts underlying the military employment of this technology, also known as "Ballistic Missile Defence" (BMD).

BMD includes a wide range of interventions, such as those against cruise missiles, Submarine Launched Ballistic Missiles (SLBM) and Intermediate Range Ballistic Missiles (IRBM) but the best defence (BMD) seems to be – as admitted by the American experts themselves – the interception of the intercontinental ballistic missiles (ICBM) (see diagram).

Having said this, one asks himself: if it were decided, in the next years, to actually pro-

duce these anti-missile systems capable of neutralizing or destroying the enemy nuclear missiles, what would be the consequences? The nuclear strategy would certainly undergo a radical transformation, with deep changes in the world strategic balances.

This systems could – in theory – guarantee the security not by threatening a "mutual assured destruction" but by promising a "mutual assured survival" assuming that the United States and the Soviet Union have the same capability to produce antimissile laser systems. And almost certainly the Soviet Union – covertly and without clamour and internal and international echos (unlike the United States) – has also been carrying out programmes in the sector of laser beam weapons that are apparently the equivalent of the US ones. We could therefore be witnessing a race between the two superpowers which want to equip themselves with systems of global defence – a kind of "Machinot Line" in space, as Gen. Corsini has called it – with the hypothetical risk that the party reaching this goal first could, in theory, be tempted to use its presumed invulnerability to destroy the other. Luckily for mankind, or unluckily (depending from what viewpoint the problem is seen), it seems certain that a system making a society invulnerable to nuclear attack cannot be accomplished and would inevitably be doomed to failure.

The scientist and technicians presently engaged in studying the feasibility of the "Star Wars" programme are convinced that an absolute defence does not exist, for any kind of defence would always have a certain degree of vulnerability. And we have seen it, while speaking about the various operations of engagement. On the contrary, only safe antimissile defences limited to protecting the strategic forces or limited zones are deemed feasible.

(There are already talks about stationing experimental systems

Facing page.

The diagram shows the hypothetical flight of a Soviet ICBM from the Russian territory to the US, covering a distance – in missile terms – of 10,000 km. The atmosphere's limit is at about 100 km above the Earth's surface. As a matter of reference, we mention that the spaceship "Shuttle" normally orbits at a height of 250 km.

The red line shows the initial phase, when the missile leaves the atmosphere and is propelled into space. At the beginning of the green line, the booster rocket drops away and the missile is now formed by the main rocket, or "BUS", which includes the re-entry vehicles or nose cones. During this phase, apart from small adjustments made by the governing propellers, the "BUS" travels in a free fall towards the United States. At a predetermined point the re-entry vehicles and the decoy targets (offensive independent warheads) are disconnected from the "BUS" and travel towards their respective objectives.

The defence against ballistic missiles (BMD) has a multiple capability to hit an enemy missile along its trajectory: immediately after the launching, when the missile travels at low speed; in the phase shown by the red line (coinciding with the launching's longest time-span, which is also the fastest); in the phase shown by the green line, re-entry in the atmosphere and separation of the independent warheads.

The most advantageous solution seems to be that of attacking the missile during the "red line" phase, because possible attempts to deceive a defensive system in this phase would require the orbiting of a complex system of "decoy" missiles that would be enormously expensive.

After the sighting, a method to engage the missile could be that of activating lasers on mountaintops. The laser beams would be reflected by retransmission mirrors to other interceptor mirrors sited on the attack route to the targets. The accuracy of the intervention would be ensured by space-located laser radars.

Another system of defence is that of orbiting interceptor missiles which destroy the enemy nose cones with nuclear-produced "X" rays.

These actions of engagement at high altitudes, above the Earth's atmosphere, would probably occur in the "green line" phase. On the other hand, in this phase the enemy would find the deceit more costly, but easier. After the separation of the nose cones from the "BUS", the defence would become quite difficult.

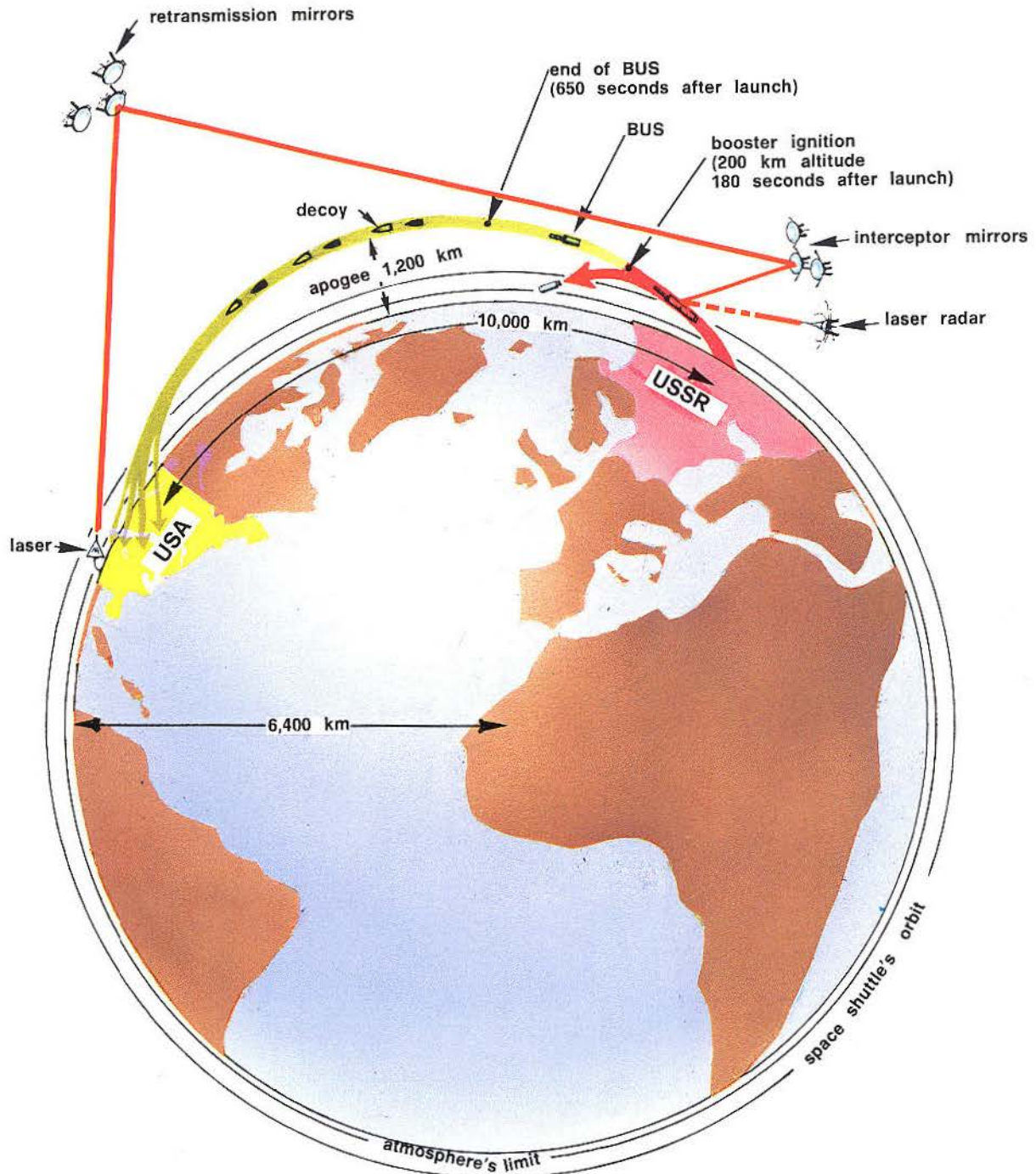
in Europe for the direct protection of the "Pershings" and "Cruises"). As will be noticed, it is again a matter, albeit in "space" terms, of the ancient dilemma of the sword and the shield, the gun and the armour!

In such a context, apparently the survival of our Society will have to be ensured through

an effective deterrence based on suitably protected offensive strategic systems. And it is of scarce importance, in a framework of ample global availability of nuclear devices of "mega-tonic" power, that one of the two superpowers had more of them, provided that the other can command sufficient and

credible forces of retaliation which can guarantee the stability.

And then a spontaneous question arises: why assign so many resources for the implementation of programmes that don't provide absolute security? Is it in the interest of mankind that armaments be installed



into space, capable of hitting not only the enemy missiles but also the satellites (considering that, besides, the latter have been for years effective tools of surveillance and early warning against a surprise attack, positively contributing to mutual security)? Certainly not, also because the development of these systems could have serious destabilizing repercussions on the present strategic balance. And almost certainly the space weapons and the employment of space for military purpose will be the subject of talks and, hopefully, of agreements – complex as they may be – between the Soviet Union and the United States.

Also about "Star Wars" there has been no lack of criticism and perplexities in the European countries of the Alliance, if only for their consciousness that they cannot offer viable alternatives, neither in the field of technological research nor in that of financial contributions, especially when the cost of the "Strategic Defence Initiative" is reckoned in tens and tens of billion dollars: science fiction, really, from all points of view!

We cannot let our fantasy carry us away, our feet must stand firmly on solid ground; we must continue to believe, first of all, that the force and cohesion of NATO are fundamental elements for the security and the preservation of a stable peace and try to find, within the Alliance, the model of defence and the ensuing operational tool apt to deter and, if forced, to repel, a possible aggression.

COMPREHENSIVE MODEL OF DEFENCE

A comprehensive model of defence must stem, first of all, from the scenario of the threat which, in practice, can be considered unchanged at the eastern frontier, with an essentially air-land character and with the only variants connected with the more and more deep-rooted intention of the two

bordering neutral countries to defend their territorial integrity, with the ensuing manifold positive reflections for us. There is, on the other hand, an increase only in the air and naval threat from the south to the lines of communication, deriving from the possibility, more than the probability, that the hypothetical aggressor could take firm root in the Mediterranean countries, where, at present, it keeps friendly relations. In this connection it must be pointed out that the political situation of these countries is marked by a permanent unbalance, which derives both from conflictual internal reasons, typical of the

individual countries, and from external influences aimed at destabilizing the whole area. In this context Italy, although bound to NATO with a precise rôle of its own, tries to act as an intermediary between the parties, in order to maintain or improve the political stability of the zone. Of course this entails possible involvements, also of a military nature, with a weight

A U.S. ballistic missile submarine shows its launchers. Some are empty, but the ones closed with white foamed plastic already shelter the SLBMs (Submarine Launched Ballistic Missiles).



or tone proportionate to the activism, incisiveness and determination of our foreign policy.

Lastly there is the possibility – but the probability is scarce – of sudden attacks against the smaller islands, for demonstration or within the framework of disputes connected with the exploitation of the continental shelf.

In other words the scenario of the threat can be assessed as:

- quantitatively unchanged on the north-eastern border, **though constantly on the increase from the qualitative point of view** (and we have daily confirmations of this);

- on the increase from the south, in the air-naval sector.

For what we have said, the military policy should be aimed towards an instrument as much "integrated" as possible, capable of fulfilling the "five joint operational missions" pointed out by the Minister of Defence in his "White Paper". Namely, they are:

- **Defence of the north-east** (1st mission), by advanced defence – the validity of which is fully confirmed – in correspondence with the north-eastern border, as we said, aimed at obtaining a frontal arrest, repeated, in depth, if that be the case, on successive positions,

mainly through an effective anti-tank and anti-aircraft defence, together with the wearing out and the interdiction of the enemy Major Units in 2nd and 3rd echelon before they come into contact, using aircraft fire and

Mc Donnell Douglas F-15 "Eagle" fighter-interceptor, equipped with a transport pod for an antisatellite Vought ASAT missile. This missile can destroy satellites up to an orbital altitude of 1,000 km, and is guided on the target by an infrared system and eight small telescopes. The ASAT reaches the speed of 49,375 km/h and does not have an explosive warhead: the target is destroyed by the energy developed at the moment of the satellite-missile impact.





long range weapon systems, keeping in mind, among other things, that the mentioned Major Units will have to be channelled – due to the typical morphology of the terrain – first in the Yugoslavian, and possibly the Austrian, valleys and, after, in those of the Alps and Pre-Alps.

- **Defence to the south and defence of the sea lines of communication** (2nd mission), ensuring, in cooperation with the allied forces, the surveillance and control of the Mediterranean with adequate air-naval forces to face a possible offensive from the sea and to protect the sea ways of communication.

- **Air defence** (3rd mission), by ensuring, in cooperation with the allied forces, protection from the air and support to the naval and land forces through an adequate availability of multi-rôle aircraft.

- **Operational defence of the territory not included in the**

north-eastern area (4th mission) by intervening – in the threatened zones – with the power and cadence of development that appear to be compatible with the territorial organization – which must be restructured within a joint framework – and with the institution of mobilization, which ought to be revived with measures aimed at extending the system of “linkage”, on a regional basis, to the units of territorial defence, permitting the periodic recall of the reservists for the constitution of the units.

- **Actions of peace, security and civil defence** (5th mission) ensured by establishing a “mobile force of rapid intervention” capable not only of intervening quickly in any area of the national territory (excluding the Combat Zone) possibly exposed to external attacks, integrating the local defences, but also of carrying out tasks of inter-

Close air support and tactical reconnaissance AM-X aircraft. This airplane, still at the prototype stage, in the second half of the '80s will renew the fighter-bomber-recce light aircraft line, consisting of G-91R and G-91Y, and the F/104S – in fighter bomber rôle – not replaced by “Tornados”.

national security, intervening – upon request of the UN or friendly countries – to carry out actions of peace and humanitarian deeds as well as actions of protection and removal of Italian citizens abroad, in case of serious and direct threat against them.

As regards the interventions for civil defence in case of national disasters, an “ad hoc” force of rapid intervention must be created, because the requirements to meet are of a completely different nature.

ADEQUATE INSTRUMENT

In order to meet the operational needs described above, the operational instrument must necessarily be adjusted in its three components (land, air and naval). Here I shall just deal – very briefly – with the aspects concerning the Army, for two series of reasons: first, because I am an Army general, second because the Army, within the joint framework, will have to play the leading rôle, like the Infantry and its branches within the Army: the infantry is known as the Queen of Battles, because all other branches and forces operate together with it and to support its action, which remains irreplaceable (Falklands docent).

We have seen that the present operational instrument (and I mean the field army) can be considered barely sufficient, in quantitative terms, for confronting the supposed threat, but it is absolutely inadequate from the qualitative viewpoint, due to the serious deficiencies existing in the armament and equipment in general and, particularly, in the sector of direct anti-aircraft defence of Head-

quarters and operational units (low altitude defence), anti-tank defence under 500 metres, armoured and tracked vehicles, systems for the surveillance of the battlefield and acquisition of targets, systems of command, control and processing of data, electronic warfare, etc..

Therefore, first of all, the already defined programmes of modernization must be completed and, second, the need remains that more **real** resources be allotted for the problem of defence; resource to be employed as economically and as profitably as possible, with joint outlook and participation, which would allow the actual qualitative strengthening of the instrument, avoiding the well known "restructuring" makeshifts that always result in a reduction of forces. Unfortunately, as regards the resources for the defence budget, the Hon. Savio has said in so many words that "Italy appropriates 2.5% of its GNP for defence, setting itself at the 11th place among the NATO countries, after the United States, of course, but also behind Greece, Great Britain, Turkey, France, Belgium, Germany, Portugal, The Netherlands and

Norway". Clearly this is not encouraging, and cannot be accepted without foreseeing a decline of operativeness (which could become irreversible) and a loss of credibility within the Alliance. Indeed, our feet must stand on the ground, but not underground! Corrective measures must be taken, both of a financial (additional appropriations) and of a politico-diplomatic nature, as well as on the military plane. These measures should not only be aimed at taking the best advantage of the aspirations of the two north-eastern bordering nations (Austria and Yugoslavia – which, as we said, have more and more transparently shown their firm determination to defend their territorial integrity – but also at improving our relations with Albania, Malta, Libya, Tunisia, Egypt, Somalia and Ethiopia.

Launching of an "Aspide" missile from a "Skyguard" anti-aircraft field system. Designed as a defence against air attacks at very low altitude, the "Skyguard" system is equipped with a miniature fire control centre, based on digital techniques and high-level technologies.





As regards our territorial army, it must be said that it ought to be reorganized, envisaging the establishment of units, at battalion level, charged with all responsibilities of territorial management and security (i.e. guard to depots, also with the participation of auxiliary Carabinieri) and keeping as "cadres" units of rapid constitution, using "linked" personnel, on the same line of what has been foreseen for the completion of the operational units. Finally, as regards the **"Mobile Force of Rapid Intervention"** to be established in view of a timely deployment in the areas where a situation of crisis has arisen – or better, is about to arise – it is commonly believed that it should not exceed the Brigade level and should have a joint frame.

To this instrument, the following are indispensable corollaries:

- presence of a reliable air force, capable of giving immediate and close support;
- a modular structure permitting, at the moment of the emergency, the gathering of an instrument qualitatively and quantitatively adequate to the needs;
- a light and powerful antitank and antiaircraft armament, so as to allow an acceptable operational autonomy;
- a high training standard, realized in an adequate framework of training areas and aids (simulators), and frequently tested during exercises.

CONCLUSIONS

It results from the above that a model of defence totally different from the present one seems unacceptable, because the threat in its main outline is unchanged, and unchanged are

OTO C-13 combat armoured vehicle. Produced by OTO Melara, it reaches a maximum speed of 70 km/h, with a range of 480 km. Its high weight/power ratio (25 HP/t) gives this vehicle a good cross-country capability on any type of terrain. It carries 9 fully equipped men, who can fire through 5 loopholes and from a trapdoor in the high part of the hull. The vehicle is armed with a .50 caliber Browning machine gun.

the socio-organizational structure of the instrument (conscription) and the amount of economic resources. The most appropriate path to be followed seems to be the adjustment of the present instrument, also in order to better concentrate and assign the available resources. The establishment of a mobile force appears to be a viable objective, provided that one does not indulge in overambitious dreams which, besides the hindrances from our foreign

policy, would meet insuperable obstacles in the resources available, especially if assessed in relation to the air-naval instrument entailed by any long range development.

Before concluding, I should like to dwell briefly upon two subjects: the first concerning the Alliance and the second more specifically our country.

As regards the Alliance, we have seen that there are numerous differences between the European countries and the United States, and some of them are rather weighty, but one cannot ignore the many aspects on which there has always been, and there is today, full identity of opinions.

In all there is the common will to pursue the great principles of freedom and democracy, as well as social justice and peace; concepts that have also been firmly underlined at the conclusion of the extraordinary meeting of the Western European Union (WEU), recently held in Rome.

All want to avert a conflict, at any level, and in all there is

the wish to strengthen the defensive instrument and to raise the nuclear threshold.

Till now, and luckily for mankind, a third world conflict, which could have had apocalyptic consequences, has been avoided. All the same, the risk is always impending, also because the hypothesis seems scarcely credible that a country (or Alliance) that owns nuclear weapons will be ready to accept a severe "conventional" defeat without using its nuclear power. The nuclear threat exists, and will continue to exist (even if we put our missiles away). Just as the chemical threat, discarded during World War II, has reemerged, multiplied in its lethal effects by the technological evolution. In this context, therefore, we must not only do our best, at all levels and by all means, to prevent all types of war by supporting and encouraging all initiatives apt to prevent us from overstepping, by mistake or imprudence, the threshold of the existing powerful armaments (if this happens, it would be a tragedy for all

— as shown in the film "The day after" — including those who use them first) but we must also operate in order to reduce, within certain limits, the devastating effects of the NBC weapons, if, regrettably, a conflict breaks out.

Unfortunately it must be admitted that nothing — or very little — has been done in our country about it, while in neighbouring Switzerland anti-NBC shelters are ready for more than five million citizens, i.e. 76% of the population.

The defence of our country, today more than yesterday, is not just the task of the armed forces, but affects all of the nation's resources. The national security is given — always within the wider framework of

"Folgore" recoilless gun, used by an Italian Army infantryman. The "Folgore" has been designed by Breda in such a way that a single man, if necessary, can carry the weapon, aim and fire. Its hollow-charge, semi-selfpropelled round has a speed of approximately 500 m/s and can pierce a 425 mm armour.



the Atlantic Alliance – by the summation of military defence and civil defence.

Therefore the necessity exists that the organization and mobilization (military and civilian) of the country for its defence be pre-arranged already in peacetime, using adequate resources and operative legislative tools, which regrettably we do not have. This matter is still governed mainly by laws and relevant applicative regulations dating back to the distant 1940; they cannot be considered fully valid, due to the deep modifications occurred in the constitutional and administrative systems of the country.

Unfortunately, the existing serious legislative deficiencies, also in the limited military field, cause the impossibility to work out a concrete planning or to give validity to the planning in vital sectors of the country's defence. We are still proceeding with "drawer" decrees, because there is no political willingness to tackle and solve – at least from the legislative point of view – the important problem of defending our Fatherland: apparently we are afraid to be taken for "warmongers".

We must not be disheartened by this; on the contrary, we must consider it our precise duty to continue the necessary actions in the appropriate forums so that the civilian and military authorities will have at their disposal sufficient resources and the suited legislative instruments for organizing the defence in all its various aspects, within the framework and in conformity with the European and Atlantic treaties.

And, in this sector, the Center for High Defence Studies has already done much, and will be able to do more in the future.

Summing it up, we ought to continue insisting with patience and obstinacy (equal at least to that of our Russian interlocutors), and with objective "optimism", in the dialogue and negotiations about a **"verifiable reduction of armaments"**, in order to prevent war, but, at

the same time, we must pre-dispose an efficient defensive organization that would not only discourage a potential aggressor, but also reduce the casualties and damages in case of conflict.

The Italian Armed Forces stand in front of the entire nation a guarantee for security at the frontiers and inside the country, against disorders created by man or nature. They present themselves, especially, as a valid component of the force of deterrence constituted by the Atlantic Alliance, which for nearly 40 years has been ensuring peace in Europe.

In order to carry out their tasks, the Armed Forces request the necessary resources for achieving an adequate operational efficiency (3) but they also request the consensus and moral support of the national community, of which they feel to be a lively, vital and democratic expression.

Giorgio Donati



General Giorgio Donati has attended the Military School of Rome and the Academy of Artillery and Engineers in Turin. After his commission, he participated in the Liberation War as O.C. patrol leader, commander of a mortar platoon of the "Piemonte" Alpini battalion in the Italian Corps of Liberation and, later, in the "Legnano" Combat Group. In 1944, he was wounded in battle and received a Solemn Citation for the action in Val Canneto (Parco Nazionale degli Abruzzi). After the war, and until 1955, he served as 1st Lieutenant and Captain with the "Bergamo" and "Vicenza" mountain artillery battalions in Alto Adige. He attended the War College and the Joint General Staff Institute, besides several courses in Italy and within NATO. As a General Staff Officer he held many important positions, among which: Chief, Training and Manoeuvre Section, Hq. LANDSOUTH (1961-1965); Chief of Staff of the "Tridentina" Alpine Brigade (1965-1969); Chief of the Training Office, Hq. LANDSOUTH (1971-1973); Chief of Staff of the 5th Territorial Military Command (1975-1976); Chief of Staff, Hq. LANDSOUTH (1976-1980). Commander of the "Susa" mountain artillery battalion of the "Taurinense" Alpine Brigade, he then commanded the 3rd Mountain Artillery regiment "Julia" and the "Cadore" Alpine Brigade. Promoted Lieutenant General, he commanded the 4th Alpine Corps and, later, the N.E. Military Region. On April 30, 1983 he was appointed Commander of the Allied Land Forces Southern Europe (LANDSOUTH). Gen. Donati has been awarded the Gold Medal for Long Command, two War Crosses for Merit, the Mauriziana Medal and the Portuguese 1st Class Medal for Merit; in 1978 he has been made Grand Officer of the Order of Merit of the Republic of Italy. This article is excerpted from the lecture delivered at the Centre for High Defence Studies on December 7, 1984.

NOTES

(1) Besides FOFA, the following are indicated as an alternative to redress the unbalance of forces:

- participation of the French forces and the German territorial Army;
- 4 additional Divisions;
- 4 reinforcing Divisions in the first 8 days.

(2) The "emerging technologies" will be directed on:

- first echelons;
- counter-air 90 (ballistic missiles);
- second echelons;
- C3 and information systems.

(3) The operational efficiency of the Armed Forces is the integral complex (not be summation) of 5 strictly interdependent factors:

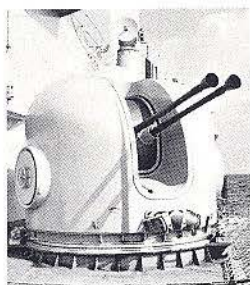
- man and his spiritual and psychological motivation (sustained by the consensus of the national community);
- individual and collective training at the various joint levels: inter-branch, inter-service, inter-allied (with availability of firing ranges, training areas, simulation devices, ammunition);
- availability of modern and reliable armament, equipment and ammunition;
- capability of adequate support to the defensive effort (well trained and rapidly mobilized reserves, well located and sufficient logistic and operational stocks);
- redundant and flexible command and control systems.

To disregard just one of these factors results in a serious hazard for (and perhaps the annulment of) the deterrent value and the credibility of a defensive force. This is what we are suggesting today as a subject for meditation to those responsible for defence, and to public opinion.



SINGLE 30 COMPACT NAVAL MOUNTING

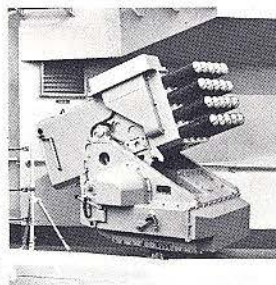
- *Light with no deck penetration*
- *Anti aircraft and anti surface high capability*
- *Dual ammunition feed*
- *Environment protected*
- *Operational through power failures*



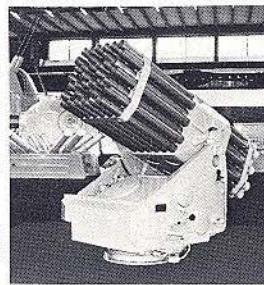
TWIN 40 L 70 COMPACT
NAVAL MOUNTING



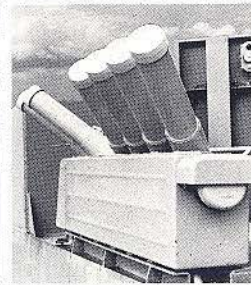
TWIN 30 COMPACT
NAVAL MOUNTING



105 mm NAVAL ROCKET
LAUNCHER MK II



81 mm NAVAL
ROCKET LAUNCHER

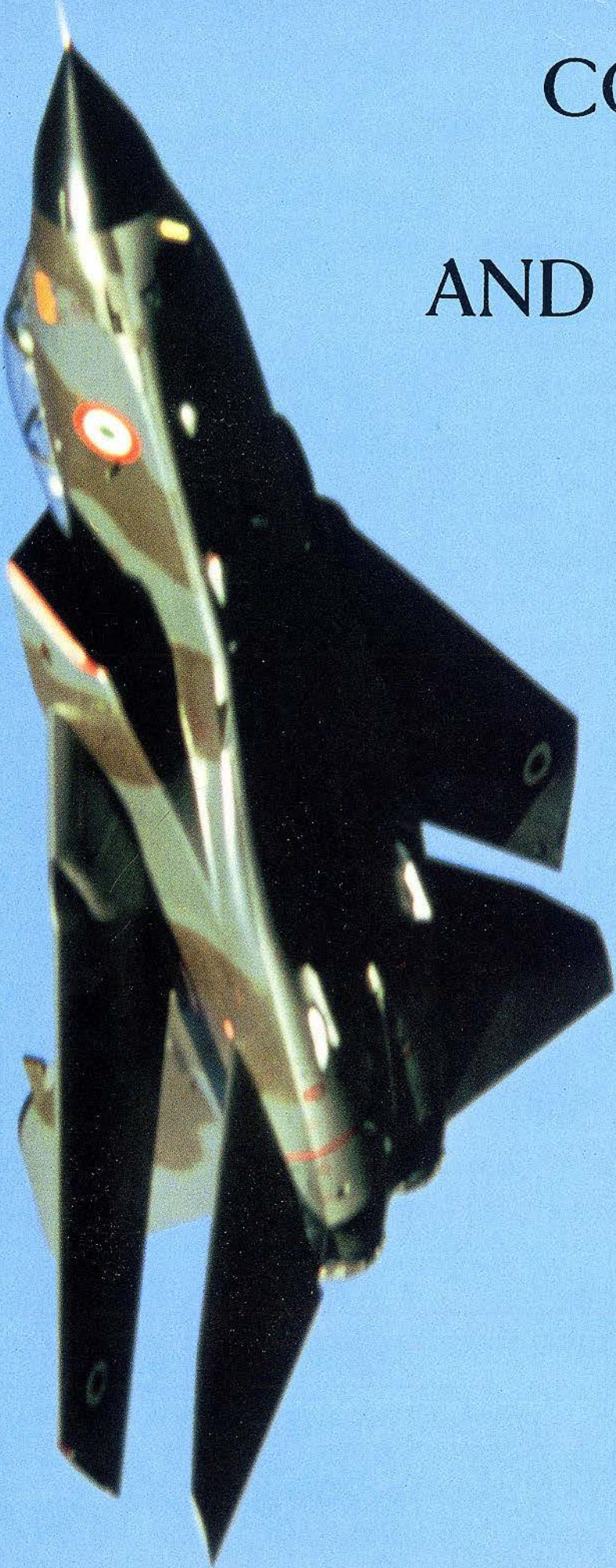


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COLLECTIVE SECURITY AND NATIONAL DEFENCE

The publication of the U.S. Army's new doctrine (FM. 100-5 of August 20, 1982) has animated the debate regarding NATO's strategy. The names' confusion that has grown with it has been denounced by us for years and termed "jungle of definitions" by General Umberto Cappuzzo at a meeting organized by the "Centro M. Brosio" (1).

As always the discussions are, one can say, "hypnotically" limited to the land battlefield, leaving out the air and naval ones or, at the most, premising that, while the land battle is fought, the struggle for the conquest of skies and seas is also under way. This shows that only verbally all agree on the need to study the war as a whole, so that all the elements that take part in this complex social phenomenon are harmonized and exploited as best as possible, in order to achieve success.

This inconsistency between theoretical aims and actual behaviour is evidenced by the attempt to raise the American doctrine known as "Airland Battle" to the rank of NATO strategy. The debate, complicated by an hermetic language and some doctrinal involutions is creating further intellectual discomfort as regards the study of the problem of common and national defence.

With this work, we shall try to overcome this uneasiness; we shall also try to orient ourselves in this complex subject, dividing, when possible, the political from the exclusively military questions, the Atlantic Alliance's interests from the national ones, the needs of each Service from the global exigencies of war, in the aim of reaching the core of the problem.

Although in the abovementioned manual it is clearly stated that "the formulation of a strategy is beyond its aims", and that it is only concerned with the doctrine of land forces' employment at Corps level, the "Airland Battle" has been nevertheless defined as strategy. Someone has called it "operational strategy" or "major tactics" because the manual has inserted it between strategy and tactics.

Something like it was done by the Soviets almost twenty years ago and is still in force today. In fact they call "art of operations" (Operativnoye Iskuststvo) the section of the military art devoted to the theory and practice of the preparation and management of joint or independent operations of the major units of each Service.

Starting from the strategical prerequisites, the new art establishes the methods for preparing and conducting the operations, in order to achieve the strategic objectives, giving the initial data to tactics. The latter, on its turn, prepares and carries out the combat, according to those objectives and to operations (2).

Also the Soviets, like the Americans, do not explain the theoretic need of this new "art". Studying their texts it seems that this art derives from the greater operational autonomy of the major land units, which is due to the advances in the armaments field, especially the nuclear one. The nuclear weapons have emphasized the importance of the time and surprise factors and of the manoeuvre of the forces and means, together with the minor units. Commanders' ability to autonomously organize their operations in order to fulfill their task.

The nuclear arms' destructive power requires in fact the dispersal of the combat formations, at distances which make it very difficult for the higher Command to coordinate the action, especially in the offensive. Among the mentioned ex-

amples there are: the case of motorized units, which make a rapid offensive along a preferential line, following nuclear, missile, air or artillery attacks, in order to achieve the complete defeat of the surviving enemies; that of an attack along converging axes in order to surround and destroy an enemy's defensive stronghold, and others. Interdiction by nuclear, aircraft, missile fire is envisaged in order to prevent the reserves from joining the battle and, subsequently (if the remaining reserves are within reach) the artillery will be employed. In general, it is foreseen that "the offensive start with nuclear air attacks and missiles, in order to eliminate the means of mass destruction and defeat the main enemy formation along the main axis of the attacking troops" (3), of course taking advantage of the surprise factor.

Sikorsky RH-53D helicopters on the deck of the carrier "Nimitz". The RH-53D is a modified version of the HH-53 and is used in minesweeping operations. Different versions of the HH-53 are employed in salvage, air rescue, combat assistance and troop transport operations.



The organization in "Fronts" and "Strategic Formations" (Operational Manoeuvre Groups) should permit to achieve the goals. The "Front" is the highest level of a strategic formation made up by units of the three Services. This joint organization and the definition of strategy confirm our assumption regarding the reasons for the creation of an intermediate branch between strategy and tactics. In short, it seems that only the organizational and the conceptual part regarding the Armed Forces has been left to strategy, transferring the employment of the Armed Forces in war to the art of operations. In fact, according to the Soviets, military strategy **investigates and elaborates** (4) the problems of the training of the Armed Forces, both as a whole and as individual Services, their employment in war, the forms and methods of conducting and directing a war and also the problems regarding the strategic support of the Armed Forces' combat operations (5).

An important fact that should be stressed is that the

Soviets, sometimes, wrongly classify the objectives according to their distance and not according to their strategic value. It follows that they define as strategic a war means (or a unit) because it can operate at a great distance in order to destroy (or conquer) an objective, without considering whether this could or could not be determinant in the achievement of the strategy's goal which, being a concrete result, is the only factor that qualifies the operation of the action.

For the Soviets it is therefore "the art of operations", and not strategy, that which defines the objectives of tactics, which remains "the art of studying the objective laws of fighting and of developing the methods for confronting and conducting with success the land, naval and air battles" (6).

For the Americans, "strategy makes **use** of a nation's Armed Forces in order to achieve the objectives fixed by the national policy, **employing force** or the threat of it. The military strategy **defines the fundamental conditions for the conduct of opera-**

tions" (7). This means that, on the one hand, strategy is given a function that belongs to politics (recourse to war and use of the Armed Forces) and, on the other, the highest expression of the military art is reduced to the mere and simple definition of the fundamental conditions for the conduct of operations (this being a limitation very similar to the one made by the Soviets).

The "doctrine of operations", temporarily called "Airland Battle", points out the methods for fighting and winning battles. In the manual it is stated that the doctrine is founded on the idea that one must take the initiative and make use of it in an aggressive way, in order to defeat the enemy. This concept derives from a previous publication of the U.S. Army, "Training and Doctrine Command" (TRADOC 525-5), in which it can be

BMP-1 combat armoured vehicles for mechanized infantry, of the German Democratic Republic's Army. The BMP-1 can carry 8 men, and is the trestle of the Warsaw Pact Units.



noticed an attempt to express its views in a clear and non-conformist language especially where it maintains: "The operational concept emphasizes the too-often overlooked or ill-understood lesson of history for, once the political authorities employ the Armed Forces to attain their political goals, they must win something, otherwise there would not be bases on which the political authorities can negotiate to win politically. Consequently the aim of military operations cannot be simply that of avoiding defeat, but rather of winning" (8).

In the "Airland Battle", classic terms and concepts are also used, such as: in-depth attack on the enemy's weak points with fire and movement; "rapid, unforeseeable, violent" operations; precise but flexible plans of operation. These show that the Americans have in part got rid of the current fashion, which we mentioned before, and have discovered again, together with the principles of war, von Clausewitz's simplicity (9). We have said "in part" because in the new doctrine there are still a few euphemisms, residual tribute to politics. In fact the battlefield is called "integrated", meaning that traditional and nuclear weapons are employed together, and at the same time it has been "extended" (extended battlefield) to justify the counteroffensive deep into the enemy's territory. It is actually a semantic trick which permits the strategic interdiction and avoids to call it by name, defining it "Follow-On Forces Attack - (FOFA)" performed by the air force, or (Airland 2000) by the sophisticated weapons of the future, the famous E.T. (Emerging Technologies) which should also allow us to give up nuclear armaments.

The justifications for this new doctrine is that a possible war on a front (i.e. that of Central Europe) where the advanced defence requires a linear deployment of the defensive forces, the recourse to theatre nuclear weapons is inevitable in



order to stop the enemy invasion and the risk of using the strategic weapons is greater. On the contrary, if one prevents the supply of the attacking forces, by destroying the second echelon and even the third one, it is then possible to stop the offensive and, without recourse to strategic weapons, to induce the enemy to negotiate.

In the discussions following the publication of the "Airland Battle" it has finally been conceded, without periphrases, that advanced defence is a political condition put by the German government, which cannot accept the development of a defensive nuclear battle inside its territory. Eight years ago, with reference to our solitary work intended to explain the true nature of the theory of flexible response, we wrote that at the foundation of NATO's conception (MC. 14-3) there is the assumption that the primary function of the land forces on the defensive is that of containing and checking the enemy attack as much ahead as possible, in order to prevent any possible territorial conquest which could be politically exploited. We added: "... the advanced defence concept must not therefore be understood as the capability to stop the enemy attack and to counterattack and penetrate deep into the adversary's territory, but rather the ability to block the enemy

AT-3 "Sagger" long-range anti-tank guided missile.
It is the best known ATGM employed by the Warsaw Pact forces. Its range goes from 300 to 3000 m.; it can pierce an armour thicker than 410 mm.

penetration and to counterattack in order to regain the initially lost territory". In other words, we concluded "... the advanced defence is a defensive procedure deriving not so much from tactical and strategic considerations as from political, military necessities, the objective of which is to protect the territory and to anchor the allied forces stationed there" (10). With this, the Soviets were told: "... if you attack us in Europe, at the worst you would be driven back inside your own borders; on the contrary, your success **could** cause global war".

Since the two main factors which have always helped to avoid wars are the degree of risk, i.e. the price that has to be paid, and the improbability of success, the NATO doctrine reduces the first to a minimum and leaves the second in a state of uncertainty. Furthermore, it is surmised that the Soviet, ignoring both Lenin's and history's teachings (Czar Nicholas' eagerness to seize the Dardanelles led to the Crimean war and its well-known consequences) would attack in Europe, with the intent of conquering their sup-



Yakovlev Yak-36MP "Forger-A" VTOL light fighter-bombers on the Soviet aircraft-carrier "Kiev".

posed objectives in the central region, being uncertain about their success and risking to hasten a final and decisive clash with the United States. And not only that; there is the conviction that they will attack with conventional arms even if they know that, in theory at least, they would still provoke that clash, after renouncing the advantages of nuclear initiative and surprise (11).

In the present situation of strategic parity between the two superpowers, this hypothesis appears even more improbable and therefore the American political problem to reconcile the willingness to avoid the risk of a nuclear holocaust and the pledge to guarantee Western Europe's security becomes again dramatically urgent.

As regards the military aspect of this problem, there is, undoubtedly, the need to raise the price the Soviets should have to pay for a possible geographically limited aggression made with conventional arms, so that they would be deterred from attempting to take advantage of their superiority. From this, the importance of a correct evaluation of the plans and objectives which could be the subject of this temptation and, moreover, the ways and means with which the Soviets could try to seize them.

The technological scientific development regarding armaments and, above all, that of the traditional and space aviation,

has given new vigour to the principle of resisting on land in the intent of forming a mass in the air (soon it will be more appropriate to say "in space") and new importance to air (space) conquest and control. Both of these have always been challenged by the U.S. Army, first because the war suitability of the aircraft was undervalued, and therefore the validity of the principle and the possibility to dominate the air were questioned; secondly, because they led to a limitation of functions and a decrease of the importance of land forces (12). Confronted by the evidence, which shows that one cannot operate successfully on land without having at least local air superiority, everyone wants **his** own air force. The U.S. Army, finding objectively impossible to re-establish its own, has probably contrived the means for integrating, into the land forces, the air forces, so that they are now side-by-side. In this way the land forces regain the possibility to operate offensively.

General Rogers, aware of the European political reactions to these new conceptions, revolutionary for those used to speak only in terms of defence, has immediately distanced himself from his American colleagues. He has hastened to defend the originality of his doctrinal conception, maintaining that, though they had ideas in common with FOFA (Follow-On Forces Attack), "Airland Battle"

and "Airland 2000" have been conceived for world employment and have some aspects which do not apply to the tasks of deterrence and defence, established for the Allied Command in Europe" (13).

With FOFA he aims at making "flexible response more flexible" (14), attacking the second echelon of the Warsaw Pact forces with conventional air. In practice – to put it in a nutshell – Gen. Rogers has rejected the American concept of an "integrated" battlefield, because he hopes to fight exclusively with conventional weapons (but also for obvious political needs) and has borrowed from the "Airland Battle" the concept of an "extended" battlefield, because it permits to define as "tactic" all the land and air operations which take place within the geographical limits in which the second echelon enemy forces operate. In this way the ACE (Allied Command Europe) forces can overstep the NATO borders, **defensively** attacking enemy troops, air-ports, aircraft, in their territory, thus performing strategic interdiction and counter-air. To do this, Gen. Rogers relies on the improvement of the systems of command, control and communications, on the use of satellites and, in particular, of the "NAVSTAR Global Positioning Systems" which, besides giving a determinant support to navigation, will also be used to provide the coordinates of the location of the enemy forces to be attacked. For interdiction and counter-air he expects greater operational capabilities from the arrival of the "Tornado" aircraft which will join – under his command – the USAF "F-111s" and the RAF "Buccaneers". With the new types of conventional ammunition, all these airplanes should increase their capability to destroy the air bases of the Warsaw Pact, apply-

Right.

Catapult launching of a Grumman E2C "Hawkeye" early warning and control aircraft. The "Hawkeye's" highly automatic systems give its crew the capability to follow more than 250 targets up to a distance of 480 km, and to guide the friendly aircraft on them.

Below.

A-7B Corsairs, A-6E Intruders, F-14A Tomcats, and SH-3D Sea Kings on the "John F. Kennedy" aircraft-carrier.



ing the methods envisaged by another American publication, "US Counter Air 90".

In the second article cited, Gen. Rogers speaks also about an attack against the enemy air defence system, besides that against air bases. That is, he lists all the most important missions of counter-air for achieving air supremacy. But he never mentions this real strategic aim of the air forces. The reason is probably the same as that suggested for the U.S. Army. This is also proved by the NATO document "ATP-33", in which counter-air is downgraded to a tactic operation.

In short, Gen. Rogers gives the impression of wanting to

get ready to fight (or to avoid), single-handedly, a war, conventional – if possible – and limited to the European theatre (15). That is, he anticipates with ACE what could be the aim of the defensive organization of a United Europe, closely connected with that of the U.S..

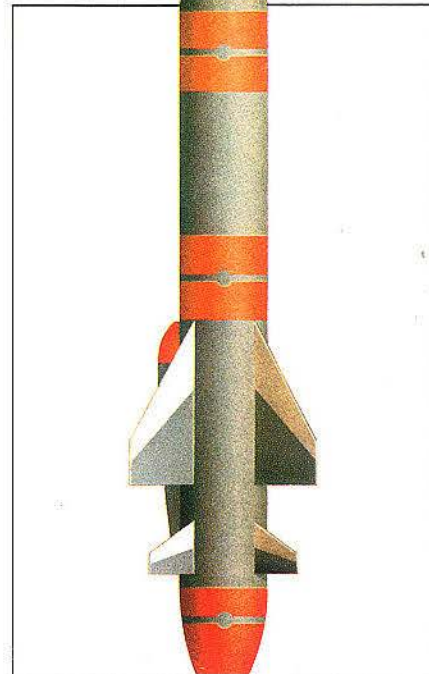
In order to attain his aim, Gen. Rogers, not having at his disposal strategic air forces, which, as such, have the task of attacking the Warsaw Pact's air power, has created a strategic dimension for the air force under his command. The latter, in fact, operating jointly with the land forces is seen, from the American standpoint, as tactical (Allied Tactical Air Force =

ATAF) (16) despite the fact that its aircraft have the capability to perform counter-air strategic operations.

It can be seen that Gen. Rogers has gone further than his U.S. Army colleagues, since he has produced a real doctrinal revolution which, surprisingly, has not given rise to any reaction from the NATO airmen. With it, in fact, the air strategy is deprived of its fundamental objective and therefore of its "raison d'être"; consequently, an independent air force has no justification anymore.

But the main point – as serious and important as this may be – is not this umpteenth attempt to cause a doctrinal





British Aerospace "Sea Eagle" anti-ship missiles, fitted under the wings of an Hawker-Siddeley S.MK2 "Buccaneer". The "Sea Eagle" reaches the speed of Mach 0,9 and the range of 100 km.

and organizational involution, implying the division of the sky in slices and the distribution of the air power between the army and the navy. The problem is that the study of war is once more carried out by sectors, in a land – and geographically limited – dimension, with a deceiving language to the detriment of the military art.

Moreover, this one-dimensional vision of war presupposes the Soviet's agreement to fight a conventional war in Central Europe: namely, it assumes an irrational behaviour of the Soviets, which their doctrine leads us to exclude. And, if we refer to it, particularly to the part we have synthesized before – which, in our opinion is well framed by the irenic-centred conception described by Gen. Cappuzzo in the above-mentioned statement (17) this conception recalls the Horatii and Curiatii and Ariosto's Orlando who, brandishing his powerful sword inveighs against the use of the (nuclear) "abominable device" and challenges the adversary to fight chivalrously with traditional arms.

Underneath this challenge there is obviously the belief that the United States wants to avoid the risk of global war to defend Europe. Above all, the

war is still considered from the land point of view and limited to Central Europe, owing to anachronistic military conceptions and to the Soviet expansionist thrust occurred in the forties. We, though sharing the same conviction, are looking into space and believe that the thrust is exhausted. In our opinion it was occasional, and also caused by the fact that the Allies did not pay attention to the warnings given by Walter Lippmann to the heads of government in his famous book: "U.S. Foreign Policy: Shield of the Republic", published during the war in 1943. He wrote that the thrust would be provoked by the victors' non-observance of some particular conditions while determining the new political order of the world. These conditions concerned mainly the pacific settlement of the territorial border between the Soviet Union and the Atlantic nations: a border that started, according to Lippmann, to the north of Finland and, through Poland, the Danubian and Balkan nations, reached Turkey. All these "border" nations, including Sweden, Germany and Italy, should have followed a policy of strict neutrality between the only two great powers which, according to the American jour-

nalist, would emerge from the second world war: the United States and Russia.

Lippman was right (in fact he was a good prophet) because that "border" has a long history: it had been traced by Czar Ivan the Great and pursued more or less successfully by all his successors. Stalin too, like Catherine the Great, was about to fulfill the great czarist dream. After WWII, having "reconquered" the Baltic countries and the Polish region – always thought to be determinant for the defence against western invasions – he tried to move southwards, but was stopped by President Truman with his declaration of assistance to Greece and Turkey, on April 23, 1947.

It was the first serious political setback that the Soviets had to suffer – for the U.S. had then the atomic monopoly – and which determined the USSR's race towards strategic parity. After procuring the nuclear weapon, and having preceded the Americans in the construc-

tion of intercontinental missiles, the Soviet Union took its revenge in 1956, forcing the English and the French to withdraw from Suez. In 1962, during the Cuban crisis, it suffered again a political defeat, because the U.S. had bridged the famous missile gap (18).

Since then, being satisfied with the borders established in Northern and Central Europe – together with the enormous progress made in the military field, which has re-established the strategic parity with its adversary – the Soviet Union leads an effective ideological offensive in the West and cautiously tries to penetrate in the Mediterranean area (of which it feels to be part, and which has acquired new importance due to the South's industrialization and the ensuing need to reach the Indian Ocean through the Suez Canal) with the help of its dynamic foreign policy in Africa and the Middle East.

Its preliminary objective is that of reducing the West's, and particularly the U.S.'s, influence in the Mediterranean.

To achieve this, the Soviets exploit all crises of this turbulent area, in which rise, develop and intertwine the most varied problems that harass the populations living in its shores or depending economically from it. To support this policy, the Soviet Union keeps a powerful fleet in the Mediterranean with the aim of imposing and legitimizing its status as a Mediterranean power, and of opposing the U.S. politico-military position in this sea.

All anti-American, pacifist and neutralist currents and movements existing in this region are exploited to this end and, above all, to obtain ports and safe berths for the Soviet fleet. These are of vital importance, for the Soviet fleet has

to operate far from its national bases, in a hostile sea, whose main accesses are under the control of other countries. A sea strewn with islands which make the East-West lines of communication rather narrow, following fixed routes, unsafe in case of conflict. From Cyprus and the Aegean islands, to Crete, Malta, Sicily and Pantelleria, there is a large number of areas that can be blocked with mines, or suitable for ambushes with submarines or fast attack craft armed with anti-ship mis-

siles. Non to mention the air offensive from the aircraft based on Turkish, Greek and Italian territory, which the SOVMEDRON would have to withstand without interruption during its slow and long navigation, always under the watchful eye of reconnaissance spacecraft (satellites), AWACS aircraft and submarines.

In this field, during the last years, the Soviets have transformed their air power in the European theatre from a defensive force (with the task of attaining and maintaining local



The Soviet aircraft-carrier "Novorossiysk" navigating the Mediterranean at reduced speed. The flight group of the "Novorossiysk" consists of twelve Yak-36 aircraft and twenty-two helicopters of different types.

air superiority and covering the zone behind the front) into a wide-range offensive force, with a remarkable ability to operate effectively in an environment of electronic war. Moreover, the aircraft have greatly increased their payload in relation with their range and have been improved as regards armament, avionics and air logistics. According to the paper "Soviet Military Power" of April 1984, published by the U.S. Department of Defence, the Soviets have tested the new cruise missiles with nuclear warhead and 1600 km. range; they have re-deployed in the satellite countries the new "SU. 24" (Fencer) fighter-bombers, with nuclear armament and a high penetration capability at low altitude. The "Frog 7" tactical ballistic missiles (TBM) have been replaced in the same countries by the mobile "SS.21" with a 120 km. range, the "SCUDs" have been replaced by the "SS.23" and the "Scaleboard" by the "SS.22". Finally the Soviets foresee, for the near future, the commission of two 60,000 ton aircraft carriers, each equipped with modern attack and defence aircraft. With them the Soviet fleet will probably be structured after the American model and

will achieve the capability, that it does not have today, to confront the 6th Fleet in a decisive air battle in the Mediterranean, in order to gain the air supremacy in the region. The command organization and the battle array of the Soviet air forces clearly show the aim of their air strategy.

Marshal P.S. Kutakov (19), following a priority order, so lists the air operations: those to destroy the enemy air forces in order to attain air superiority; those to destroy the operational reserves and to cut the lines of communication; finally, the operations for destroying the military and industrial installations.

To the mighty deployment of the Warsaw Pact forces, NATO opposes, apart from the numerical inferiority on land, a formidable and very much superior naval and air-naval strength. Nevertheless it must be said that lately there have been many debates in the United States on the expediency of keeping the 6th Fleet in the Mediterranean, and the convenience of its transfer to the North Sea has been ventilated; there, according to some experts, it could better perform its function to support the land

battle in Central Europe, at the same time enhancing its security. Concerned about a decision along this line, the Italian navy seems inclined to establish two tactical groups centred on two all-deck ships (while waiting for the construction of the second ship, its function could be performed by one of the three cruisers of the "Vittorio Veneto" class) and to create a land-based naval air force. It is a very suggestive but utopian surrogate hypothesis, which could lead to the same mistake made in the thirties, when the air force, and the bases that should have been the stationary aircraft carriers in the Mediterranean, were not sufficiently strengthened. This should be avoided, owing to the perception that today, unlike WWII, the threat is clearly an air and land one and is acquiring increasingly worrisome dimensions, complicating the defensive

The all-deck cruiser "Garibaldi". The unit has a load displacement of 13,000 tons, and is armed with two anti-aircraft "Albatros" missile systems, three "Dardo" systems, eight anti-ship "Teseo" missiles, three 40 mm. guns, two MK32 torpedo-launchers and two 105 mm. Breda rocket launchers.



problem of the nations gravitating towards this geographic area, and especially Italy's.

Owing to their geo-strategic position and the deriving problems, all three Mediterranean nations (but mainly Turkey and Greece) have their own military needs, which do not always coincide with those of the Alliance. Moreover it must be pointed out that, unlike the air forces of Central Europe, directly subordinate to AAFCE (Allied Air Force Central Europe), a Command which has realized the centralized control of all air operations on the central front, the air forces of Southern Europe operate, one could say, on a regional basis, due to the Turkish-Greek relations. The organizational and operational problems solved in the Centre persist in the South, worsened by the incidence of weighty political problems. One should add to the above some doctrinal differences between the European air forces and the USAF, which risk to produce not too small a confusion in the doctrinal field regarding the employment of the air forces.

To solve all these problems, the NATO Air Defence Committee (NADC) was created about two years ago. It should study and coordinate a general and realistic planning of air defence with all the Allies. But being only an organization of studies, as such it will not be able to solve the air forces' three main problems: control and coordination of all air operations at the highest level; the rapid transfer to NATO command of the national air forces and, finally, the close coordination between the Command of the air forces and those of the other forces. Probably, General Rogers is confident to solve these problems with his new doctrine, even though he does not even touch on them in his articles.

To conclude, the U.S. Army's new doctrines are no doubt a progress in the manifestation of military thought. As regards the studies of the war phenomenon and strategy, the new



conceptions follow the old one-dimensional schemes and have neglected to study the character and form of a future conflict, determined by the peoples' political and social evolution and by technical and scientific progress. They are also influenced by the old American inclination to undervalue the geo-political factor in the study of defence (20). As a consequence, the Soviet Union's primary political aim has been overlooked and attention has been given to the secondary aim, which involves a reduced and limited dimension of war. Moreover, from the military standpoint, the two main factors that characterize the conduct of war are not taken into consideration: the nuclear power the conquest of space and the transfer

BU 206 "Hägglund" total mobility vehicle. At present this vehicle – capable of transporting 17 fully equipped men or a load of 2000 kg – is employed by the units of the 4th Alpine Corps. Its maximum speed on road is approximately 60 km/h; its range is 330 km.

there of the air operational technique.

In short, disregarding the main elements (progress and political evolution) which impress the "mark of the epoch's character" (21), there have been wrong, or least anachronistic, assumptions at the base of the doctrinal studies. In addition to these, there are the national interests, and those of each service, which, in the logical results deriving from

those assumptions, come to be fully realized.

The truth is that the Soviet political aims and the military doctrine show that in the modern world there are two contrasting political and social systems and two opposing philosophical conceptions of life. The war between them (inevitable according to the Marxist-Leninist theory) will be a global and planetary one, and will explode when the Soviet Union is ready and certain of winning; or, in times of crisis, when one of the two superpowers, for fear of losing its retaliation means as a consequence of a first strike (22), is tempted to be the first to attack.

Up to that moment, the Soviet Union will do its best to consolidate its czarist frontiers, aiming at the same time to obtain the Balkans' denuclearization, the neutrality of Turkey, Greece and Italy and the renewing of the "Treaty of Montreux", relying on the classical effect, known since the times of the Peloponnesian War, of the disengagement of the allies from the leading power, which has lost its defensive credibility, and their search for forms of accord with the bordering and opposing leading power (23).

To achieve these goals within medium terms, the Soviet Union will exploit the principle of pacific coexistence which "creates the favourable conditions for the construction of socialism and communism, and for the further development of the national movements of liberation" (24).

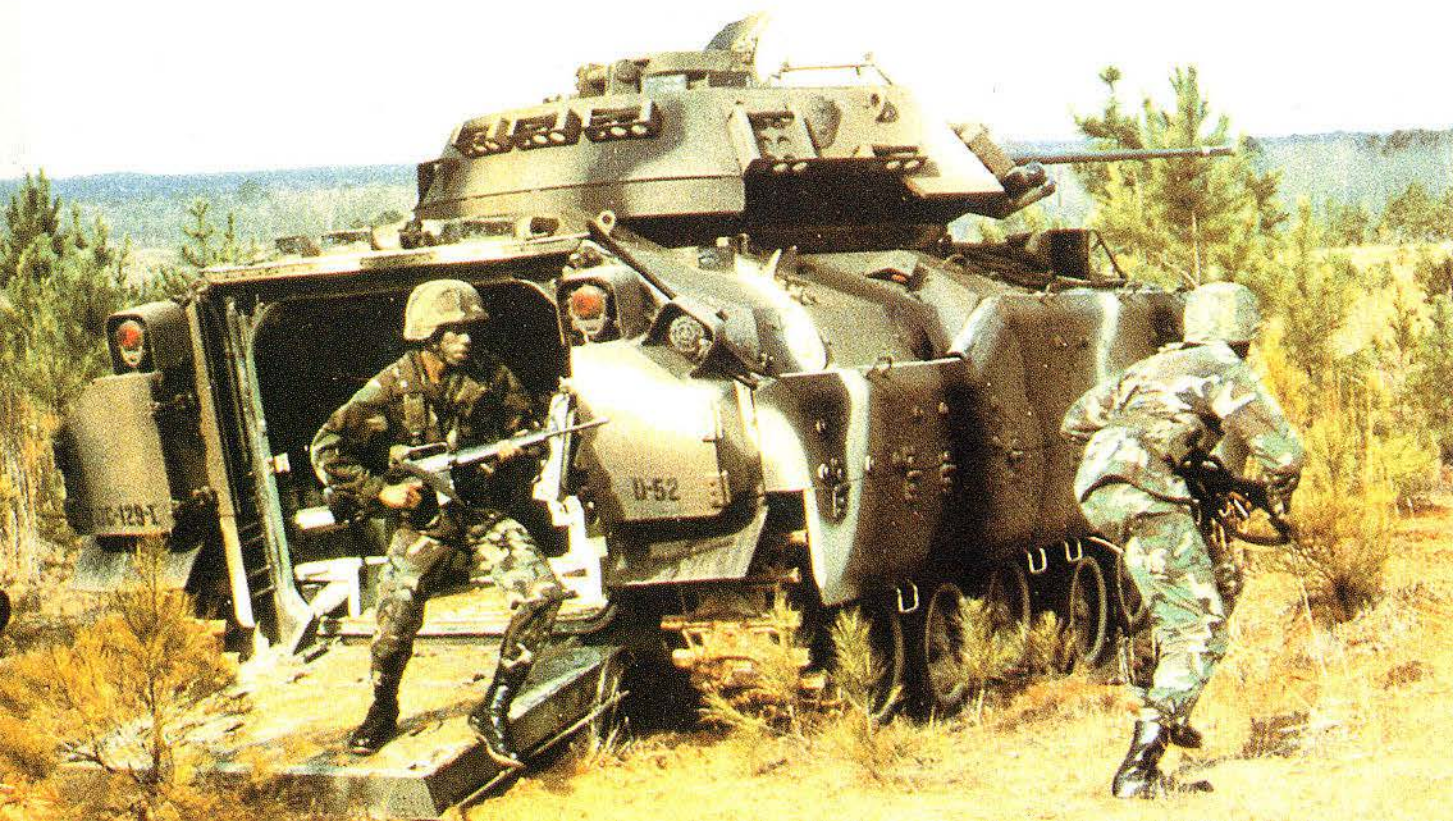
The war means already available and these being readied, the military doctrine, the strategy, the people's preparation to the idea of nuclear war, the civil defence plans, the progress of the communist ideology in the world, are all to this purpose.

The problem of the Western world's collective security, to which that of each individual country is closely linked, is therefore a political and social problem rather than a military one, and does not permit independent solutions for the United States and for the European nations. This is the lesson that can be learned from historical experience, and which the Americans, according to Henry Kissinger, seem to have learned, overcoming the traditional inclination "to waver between isolation and occasional bursts of involvement, both conceived in idealistic terms" (25).

It is indeed right to say that we are all on the same boat and we must row together, in synchronism and possibly with the same energy. The political union of Europe could greatly contribute to this common effort, but at the moment it seems far away. The unification of the European Armed Forces within the WEU, taking advantage of the Allied Command in Europe (ACE) would probably help to hasten it. Of course the contradictions and the anomalies of structure, which have been pointed out, should be corrected beforehand, defining the strategy in a way appropriate and adequate to the main factors of a modern war and to the real Soviet political goals, better adapting national and Service interests to the general interests and to the needs of the war.

The time margins for creating a modern European military body, capable to fulfill its deterrent and defensive rôle are becoming increasingly narrow.

U.S. soldiers jump from an M2 "Bradley" infantry combat vehicle; they carry the M16A1 assault rifle and wear the new helmet made of Kevlar resin and nylon, instead of steel.





The British soldier on the right holds a 5.56 mm XL70E3 assault rifle, while the one with the transmitter-receiver carries the support version (with a heavier barrel and a bipod) of the same weapon, named LSW XL73E2. Both rifles have the release mechanism in front of the magazine, and are therefore short and compact.

The technological and scientific progress made by the two superpowers in the field of armaments and in that of the military use of space is growing to such an extent that the Europeans will not be able to reach them, with the foreseeable logical consequences.

In this unhappy event, the solution of the problem of national defence will have to take into account the old and always valid principle that one must be at least as strong as the strongest neighbour, within the necessary and opportunely restructured and revived alliance with the other Western nations.

In any case, it will be imperative for politics to avoid influencing this solution (be the problem collective or national), acting as a despotic dictator; on the contrary, it will have to adapt to the laws of war (26). The military intellectuals can give a significant contribution to this adaptation, avoiding the use of euphemisms and semantic mystifications, which have never helped, neither to win a war nor to safeguard one's own identity.

Antonio Pelliccia



Major General (ret.) Antonio Pelliccia, IAF, attended the regular courses at the Air Force Academy, and was a fighter pilot. A member of the SHAPE Air Training Advisory Group and of the NATO International Aircraft Evaluation Team, Gen. Pelliccia has served on the Air Force Staff and Defence General Staff, and attended the 1st Course for Instructors of Instrumental Flight

on Jets, the Air War College, the USAF Air University, the Center for High Defence Studies, and the NATO Defence College, where he has been Deputy Commandant. He has written "The Control of Space" and "Nobody is a Prophet in his own Country". Gen. Pelliccia writes on Italian and foreign reviews, and is a member of the Military Historians' Association and of the Center for Defence Studies of the University of Genoa.

NOTES

- (1) According to Prof. Ettore Paratore, it is a phenomenon very common throughout literature in general, due to the influence of the present fashionable hermetism (Il Tempo, 10/84).
- (2) Various Authors: "Dictionary of Basic Military Terms", Moscow 1972, translated from Russian, by initiative of USAF, U.S. Printing Office, Washington D.C..
- (3) Marshal A.A. Grechko: "The Armed Forces of the Soviet State", Moscow 1975, translated by initiative of USAF.
- (4) Author's note.
- (5) "Dictionary of Basic Military Terms", already mentioned. The Soviets maintain that strategy has an offensive character and that "offensive is the military operations' fundamental type, and its objective is the total destruction of the enemy".
- (6) Ibidem.
- (7) HDQS, Department of the Army, FM, 100-5 "Operations", Washington D.C., August 20, 1982.
- (8) "TRADOC" 525-5 - March 25, 1981.
- (9) A typical example of this fashion can be found in "Survival" no. 5 - 1982, in which Sen. Sam Nunn writes: "... take the initiative counterattacking defensively (sic) the Pact's forces".
- (10) A. Pelliccia: "Anchored Defence, Mobile Defence and ...", Rivista Aeronautica, no. 5-6, 1976.
- See A. Pelliccia: "That uncertain trumpet sound - End of a strategy?". Rivista Aeronautica, no. 4, 1973.
- See A. Buchan: "Europe and America from alliance to coalition". The Atlantic Papers, Saxon House, England, no. 4, 1973.
- (11) H. Kissinger: "The White House Years".
- The author maintains that the Soviet Union would never attack Western Europe without expecting a nuclear response.
- (12) M. Taylor: "The Uncertain Trumpet", Harper & Row, N.Y., 1959.
- (13) B.W. Rogers: "Greater Flexibility for NATO Flexible Response", Strategic Review, no. 5 - 1983. See B.W. Rogers: "Sword and Shield: ACE Attack ...", NATO's Sixteen Nations, no. 2-3, 1983.
- (14) Ibidem.
- (15) Our conjecture is supported by the fact that the "Airland Battle" is clearly not applicable neither to the Italian nor to the Greek-Turkish front.
- (16) This is also a consequence of calling "strategic" all that is very far from the battlefield or, in the air warfare, the bombing of cities; the latter is a gross doctrinal aberration.
- (17) That is, condition of non-war, in which one tries to attain the political objectives by all means, excluding war. Besides, it is common knowledge that Marx and Engels maintained that power must be attained lawfully by exploiting the mistakes and contradictions of the bourgeoisie. See A. Pelliccia: "Clausewitz and the Soviet Politico-Military Strategy", NATO's Fifteen Nations, no. 6 - 1975.
- (18) In this occasion Kuznetsov told MacCloy: "You Americans will never do something like that to us again". H. Kissinger, "The White House Years".
- (19) "The Conduct of Air Operations", Selected Soviet Military Writings, Moscow, 1972; translated by initiative of USAF.
- (20) H. Kissinger: "The White House Years".
- (21) C. Clausewitz: "About War".
- (22) H. Kissinger: "The White House Years".
- (23) Ibidem.
- (24) Various Authors: "The Philosophical Heritage of V.I. Lenin and Problems of Contemporary War", Moscow, 1972.
- (25) H. Kissinger: "The White House Years".
- (26) C. Clausewitz: "About War".



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THE ROYAL ITALIAN ARMY

1908-1911

Events both external and internal influence to a large degree the life of the Italian Armed Forces in the years immediately preceding the First World War and this to such an extent as to limit the very strength of the national war apparatus.

In fact, in the international field considerable changes take place in a brief period of time, resulting in uncertainties and changes of attitude on the part of Italy which are not always understood abroad.

The position of Italy, a member of the Triple Alliance with the central Empires, seems to give no doubts as to the identification of France as a possible enemy to be fought, also considering the hostile attitude on the part of the French on the occasion of the occupation of the north African territories of Algeria and Tunisia. However, the authorities cannot overlook the fact that also Austria – particularly after the year 1908 – demonstrates far from friendly attitudes towards Italy especially after the military occupation of Bosnia and Herzegovina. This unfriendly attitude is clearly evidenced by the Austrian military manoeuvres which are carried out in the Trentino area in 1908 and which are an obvious sign of the progressive change of mood of the Hapsburg Empire towards Italy.

When the deterioration of relations with the Turkish Empire culminating in a break in diplomatic contacts and the subsequent beginning of hostilities in the Mediterranean and on the Libyan shores is added to the problematic situation with Italy's neighbours on the other side of the Alps, it is not difficult to estimate the situation for the Italian Government and for the General Staff as being complex,

to say the least. The internal situation is that the problems raised by the various international events are not adequately understood, particularly in the political world which is itself unstable owing to the continuous and extreme antagonism between the conservative and the progressist forces. The governments which succeeded each other in these difficult years do not maintain the close contacts which would have been essential with the leaders of the military apparatus, up

to the point where the military authorities are informed only after a considerable delay and when action has been taken, of changes in foreign policy as a result of the new international balance of power and of the declaration of war on Turkey. The insistent and repeated requests for increases in the budget allocated to the Ministry of War are met by Parliament, for its part, by increases which are always insufficient and, worse still, late. The heated discussions by the Left Wing regarding "superfluous and unjustified" expenditure reach almost dramatic levels in these years. Nevertheless, the Minister of War in conjunction with the Chief of General Staff manage in most cases to meet the situation, due to tireless and enthusiastic efforts to convince the Government and Parliament and to a continuous control of the appropriateness of expenditure. In this way the Minister of War and the Chief of General Staff are able to increase the force under arms, to modernize the arms and weapons in use, particularly artillery and the adoption of automatic weapons, to establish a fleet of vehicles, and to initiate the forming of an air force.

A proposal is submitted and approved at government level for the establishment of a Joint Defence Council and of an Army Council. These two bodies in addition to overcoming the lack of contacts between the government authorities and the Armed Forces, ensure a more rational utilization of the financial resources.

In particular, the Chief of General Staff – who is designated Commander of the Armed Forces in the event of a war – is entrusted with extremely complex duties which are decisive for

ITALIAN

MILITARY

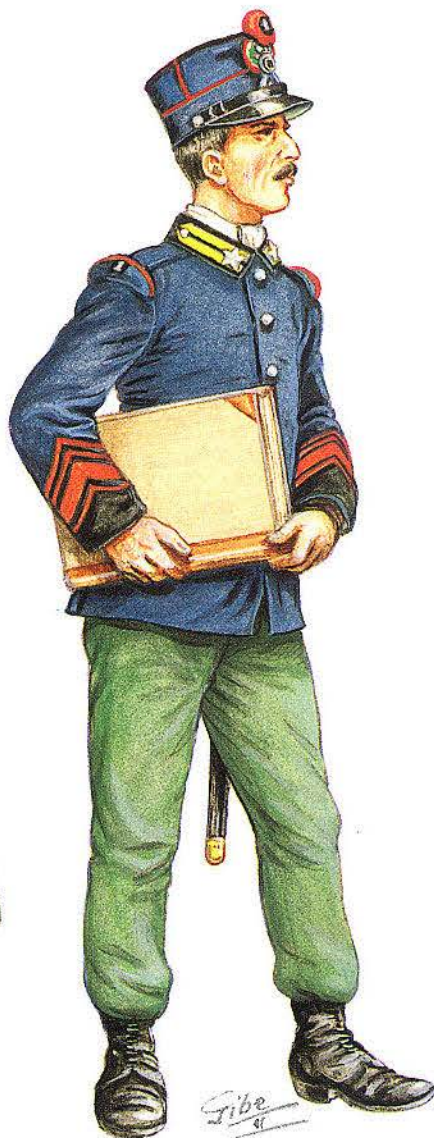
UNIFORMS

the very survival of the nation. The first of these duties is to ensure the safety of the country's northern frontiers firstly in the case of a conflict with France and then, reversing the front, in the event of a final break with the Austro-Hungarian Empire. The vulnerability of the eastern sector gives particular cause for concern. In fact, there is nothing or almost nothing to defend the Veneto plains from a hypo-

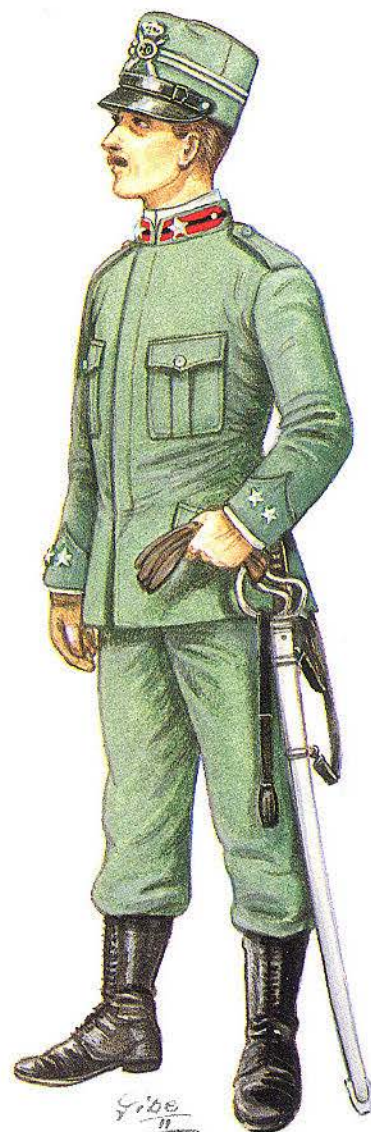
thetical overrunning by the Austro-Hungarian Empire. There is a serious lack of essential fortified points along the salient territory of Trentino and in Friuli and insufficient lines of communications to meet the needs of the whole Army in movement towards that sector. Another aspect which is not reassuring is represented by the scarcity and age of the artillery guns and the almost total absence of a supply



1909 - Soldier of the Alpine Corps, in garrison dress.
The grey-green Alpine felt hat, definitely more practical and comfortable, is adopted later.



1908 - Corporal of the 18th Infantry Regiment "Brigata Acqui", in garrison dress.
The corporal is wearing the semi-stiff cap, with pom-pom and metal badge, which has replaced the traditional kepi.



1908 - Lieutenant of the 20th Infantry Regiment "Brigata Brescia", in service dress.
The rank insignia are placed horizontally on the cuffs on a trial basis. The boots are also experimental.



1909 - Warrant Officer of the Bersaglieri, in full dress.

This NCO is carrying a sword of the special model worn only by this Corps.



1909 - Soldier of the 40th Infantry Regiment "Brigata Bologna", in garrison dress.

Some units are supplied with the new accoutrements for the 1891 model rifle before receiving all the new grey-green uniform. The habit of carrying the bayonet on the right hip instead of on the left is characteristic.

of machine-guns which it is easy to foresee would play a leading role in the next war. The General Staff faces the situation excellently succeeding in constructing a series of forts and trenches along the frontiers, and adopting the French field artillery piece 75 Déport and the home-produced mountain artillery 65 gun, with the result that there are available 92 batteries in addition to 602 machine gun sections, each of two weapons.

These positive results which are, however, insufficient to meet the entire needs of the Army, are destined to remain incomplete on account of the almost sudden outbreak of hostilities with the Ottoman Empire which necessitates the use of weapons and matériel for a large expeditionary force requiring ample logistic resources since it has to operate mainly in the desert. The consequences of the overall situation – and immediately prior to the First World War – can be summarized as follows: in addition to a reduction in the plans for modernization particularly regarding fortress artillery and

heavy field artillery, transport and aviation, a reduction of the strength of the various units depleted by sending troops to be incorporated in the expeditionary force, and a reduction in reserve stores diminished owing to the despatch of supplies.

If to all this is added the fact which occurs repeatedly that both the national and foreign firms do not always deliver the equipment at the expected time, it is not difficult to understand the extent of the limitations to the Italian military potential at the outbreak of the First World War, in particular considering that the central Empires take far-reaching and timely action.

As regards the structural situation of the Army as from 1908, there are recorded alternately pushes and slow-downs in the definition of the number and strength of units and in the training activities of the troops caused not only by the particularly disturbing and unstabling international events but also by the limited availability of funds.



1911 - Soldier of the 24th Infantry Regiment "Brigata Como", in field dress.

Although wearing all the new grey-green uniform, the infantryman is still carrying the accoutrements for the obsolete Vetterli rifle previously in use.

1910 - Soldier of the 13th Regiment "Cavalleggeri di Monferrato" (Light cavalry), in garrison dress.

It is interesting to note the experimental wearing of puttees by cavalry troops: the initiative is quickly dropped.



It can be noted that only a few new units are formed and at the same time steps are taken to avoid the lacks in the training programme for the troops. This is effected through a better utilization of the resources available as well as through the joint efforts on the part of the Minister of War and the Chief of General Staff, as has been mentioned, to obtain a more ample government appropriation.

The most noteworthy measures initiated are the designation in 1908 of the Chief of General Staff of the Army to the post of Commander in Chief of the Armed Forces in the event of a war, leaving the King with only the nominal role of Supreme Commandant, and the reduction, in 1910, of the period of conscription to two years for the whole contingent estimated at some 120,000 men.

The reorganization of the force thus results in the following overall picture:

4 Commands at Army Corps level, 4 Inspectorates (infantry, cavalry, artillery and engineers), 12 Army Corps, 25 military territorial divisions, 3 cavalry divisions, 1 brigade of grenadiers, 47 infantry brigades, 3 Alpine brigades, 8 cavalry brigades and 12 "Legions" (regiments) of carabinieri which are equivalent to a total of 2 grenadiers' regiments, 94 infantry regiments, 12 bersaglieri regiments (including the special companies equipped with bicycles), 8 Alpine regiments, 29 cavalry regiments, 36 field artillery regiments, 1 horse artillery regiment, 2 mountain artillery regiments, 2 heavy field artillery regiments, 10 fortress artillery regiments, 2 sappers regiments, 1 signals regiment, 1 miners regiment, 1 bridge engineers regiment, 1 railway regiment, 1 special engineers brigade and 88 military districts.

Therefore, it is expected that the standing Army can mobilize up to 750,000 men to which, at least in theory, can be added the trained reserves and the mobile and territorial militia forces, bringing the overall total figure to 1,393,000 men.

After 1910, with the assistance of the increases in the budget, it is possible to improve the strength of the military apparatus through the training of specialized personnel in the activities which the new scientific-industrial advances make available to the Armed Forces and which require qualified staff (telegraph operators, drivers, air balloon staff, airmen, etc.) while the force under arms could be augmented to 225,000 men.

At the beginning of the 20th century the rapid evolution in automatic weapons and in artillery and the greater precision in ordinary bolt-operated weapons force the General Staffs of the major armies to study new uniforms which are less visible and which are certain to be more practical, sacrificing smartness in favour of better camouflaging.

It is obvious from the heavy losses registered during the colonial campaigns fought in the first years of the century that this problem has to be solved without further delay. The British forces are the first to adopt khaki, the colour of the earth, the favourite of the troops in India. Shortly afterwards the Germans, the French and the Austrians follow suit, preferring grey colours, however, as being more suitable to the European surroundings.

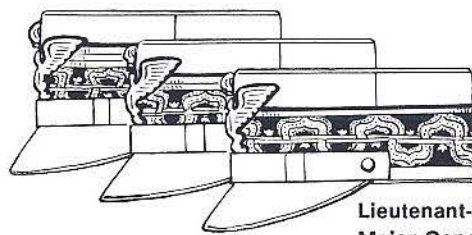
In Italy after the experimental grey uniform for the Alpine troops, due — unbelievably — to a private initiative, little or nothing is done of account of the extremely heavy financial expenditure that such a radical undertaking would require. However, the Army is not lacking technically qualified staff which understands the need and in the end they are able to convince the government also of the new pressing requirement to modernize the uniforms worn by the troops. Thus, even with

1910 - Sergeant and soldier of the
10th Regiment "Lancieri di Firenze",
in field dress.

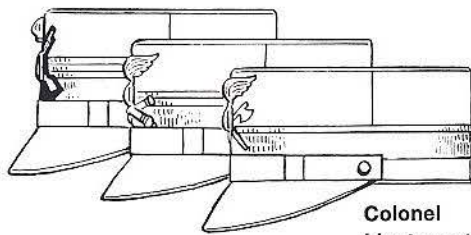
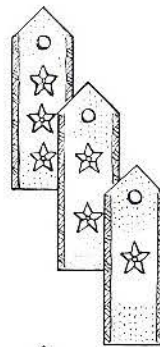
*The helmet covered in grey-green
material and reinforced with strips of
black leather is experimental and is
quickly eliminated.*



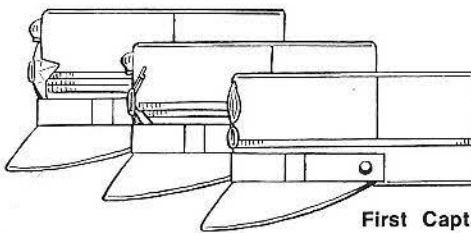
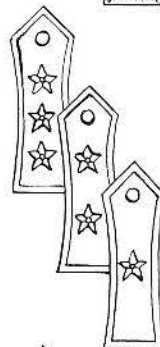
Rank insignia for gray-green uniform



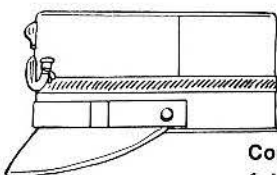
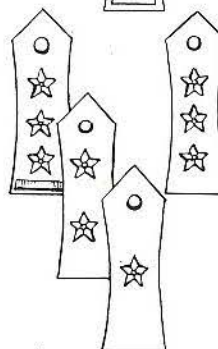
Lieutenant-General
Major-General
Brigadier



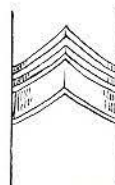
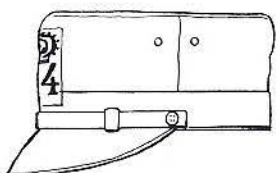
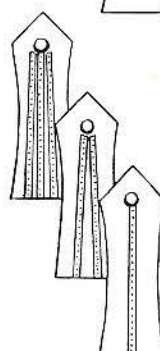
Colonel
Lieutenant-Colonel
Major



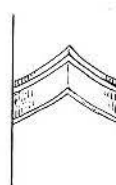
First Captain
Captain
Lieutenant
Second Lieutenant



Commissioned Warrant Officer
1st class Warrant Officer
2nd class Warrant Officer
3rd class Warrant Officer



Sergeant Major



Sergeant



Lance Corporal



Corporal

effort the first concrete results are obtained in the first decade of the century.

Among the other camouflaging colours, a mixed grey-green shade is chosen as being the most appropriate to the Italian environment. At the end of 1908 regulations are set out in a special decree which envisages the introduction of the new orders as from the following year 1909. The grey-green uniform, called field uniform, not only tends to ensure a sufficient degree of camouflage but also is the same for all ranks since it would be useless to keep rank insignia clearly distinguishable by the enemy. The only variations envisaged are slight differences in details for foot troops, cavalry units and bersaglieri units.

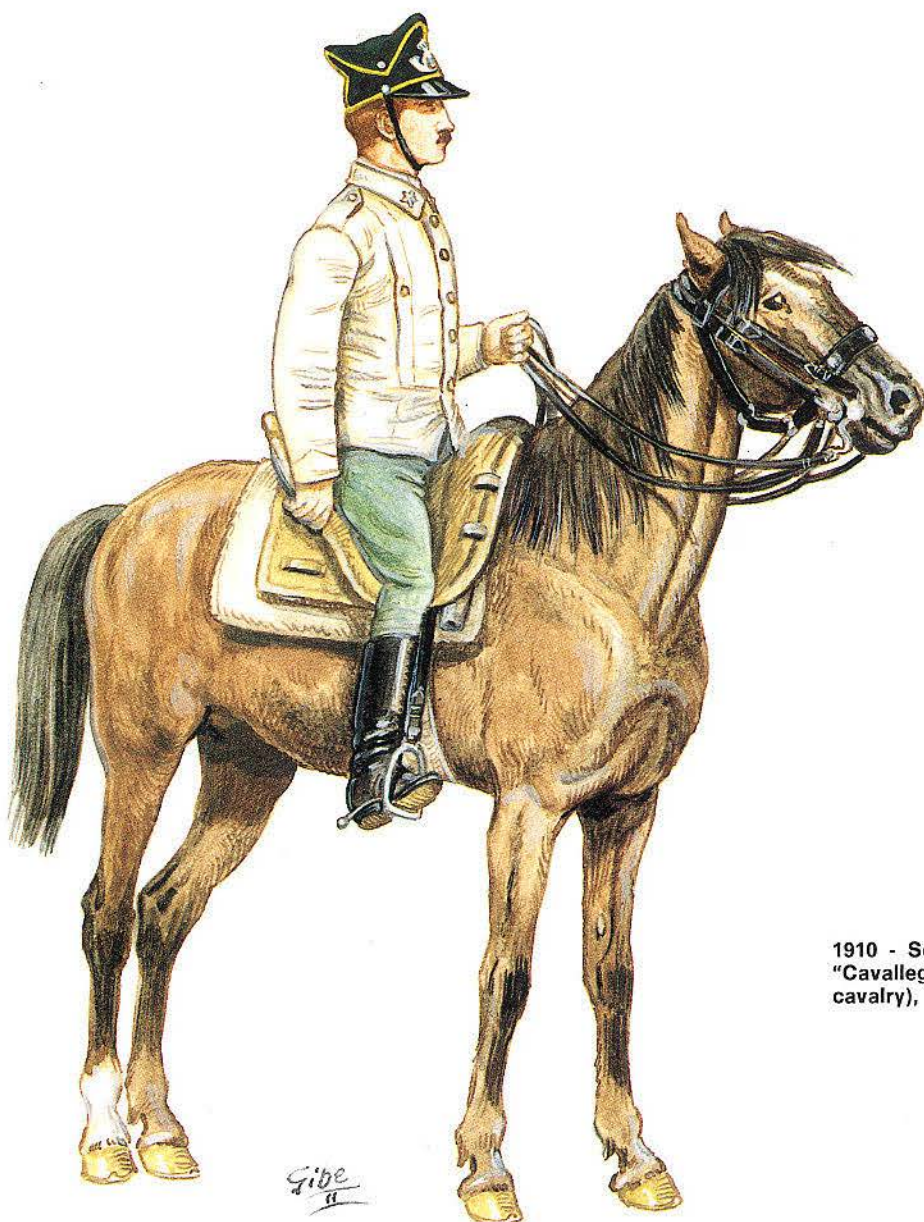
Various models are studied and prepared before the final pattern is adopted and the new uniform is widely employed during the Italo-Turkish War.

The uniform for foot troops comprises a non-stiff cap (officers and warrant officers wear a stiff cap) of stove pipe shape, with a peak and chinstrap: cap badges and rank badges worn on the cap are still those of previous regulations. The tunic worn by privates has a fitted upright collar and the front buttons are hidden from view by a fly. The total absence of pockets contributes to give the tunic a neat and clean cut, simple but with a certain soldier-like dignity. On the shoulders there are two rolled shoulder straps called "a salamino" (little sausage) to fix the belts.

The trousers worn by privates are long and fitted into half-boots. Officers and NCOs wear a similar tunic but, however, with four pockets: the upper two pockets are placed rather low near the waistline giving an easily recognizable aspect. Shoulder straps with the rank insignia on the shoulders. Breeches are worn with either boots or leggings.

Cavalry troops generally follow the same order except for the fact that the back of the jacket is ornamented at the waist by a half-belt with two buttons.

The bersaglieri, especially those in the cycle units, wear a similar tunic to that worn by other foot troops but with a turn-down collar instead of a standing collar.



1910 - Soldier of the 12th Regiment "Cavalleggeri di Saluzzo" (Light cavalry), in fatigue dress.

The leather accoutrements (cartridge box and cross belt) are also in grey-green according to the series foreseen for the various units which are now armed with rifle and musket of the 1891 model.

The table in the appendix provides a summary of the system for rank insignia. After various tentatives to simplify rank insignia the same system is kept as was previously used with the dark turquoise uniforms, maintaining for the embroidered badges and metal badges and braid the traditional

gold and silver colours according to Corps, Regiments, Special Units or Services. The red backing for badges and embroidery for general officers is also maintained.

To complete the picture it should be noted that when after 1907 grey-green trousers are distributed on an experimental basis to some units, almost automatically a new dress is formed and this is in use in many detachments until the period before the First World War. This dress which is entirely unofficial is called garrison

uniform and comprises a not always pleasant mixture of dark turquoise and grey-green and represents an interesting transition period in the uniforms of the Italian Army. More variations are due to the fact that this dress is worn with accoutrements and equipment of either the old or the new models. Similar innovations and variations can be recorded as regards the mobile and territorial militias which tend to adopt the dress worn by troops on active service although with a certain delay on account of limited supplies.

Gen. Valerio Gibellini

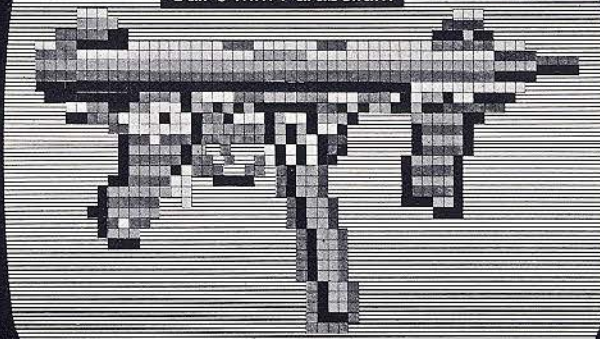


1911 - Soldier of the Horse Artillery Regiment, in garrison dress.

Leggings with straps of the new pattern are worn together with grey-green trousers.

Beretta PM 12 S

Cal. 9 mm Parabellum



THE EXPERIENCE IS IN MEMORY

PM 12S, the maximum expression of technology and tradition.
A weapon versatile, reliable and, as every product
born in Beretta, simple in design.



Beretta
defence division



84 BB

Cal. 9 mm short



92 F

Cal. 9 mm Parabellum



93 R

Cal. 9 mm Parabellum.
Single shot or three
round bursts



THE HELICOPTER AMBULANCE A 109 MK II

The helicopter ambulance Agusta "A 109", on duty with the Land Administration of Salzburg, Austria, has performed 307 missions during the first seven months of its activity, thus clearly demonstrating the validity of this new concept.

In Italy, the medicare version of the A 109 helicopter has been employed for the first time during the earthquake in Irpinia. Its versatility, speed and manoeuvrability, combined with the medical equipment on board, have made it an essential means of rapid and effective first aid.

Besides such important Italian and European experiences, the "A 109 Helicopter ambulance" has been a success also within the difficult U.S. market. Six machines, with

lengthwise stretchers, are presently employed by qualified hospitals among which the Emergency Medicine Center of the California University of Los Angeles.

As shown by statistics, the first 25 minutes after a major accident are decisive for the safety of wounded individuals. The helicopter, not only grants the rapid transport of the injured persons to the nearest Medical Center, but assures to the patient a first decisive treatment, even anticipating the therapy through the broadcast, during the flight, of the patient's vital parameters to the Medical Center.

The A 109 MK II in its ambulance version is equipped for emergency operations. It bears therefore a universal stretcher, easily and rapidly mounted, a pulmonary volumetric fan, rapid oxygen intakes, a "mini" electrocardiograph. The medical kit

on board permits to start a diagnosis keeping in touch with the hospital structures during the flight.

Anyhow, the medical version of this helicopter is only one of many other useful employments. For its capability to land and take-off on rough terrain it can easily reach the most inaccessible areas, therefore being highly qualified for modern Civil Defense and for training activities as well.

TECHNICAL FEATURES

Loads:

- Max. take-off load: 2600 kg (5730 lbs.)
- Operational load (including standard and medical equipment): 1647 kg (3630 lbs.)
- Fuel capacity: 560 lt. (148 US gals.)

Engines:

- Two
- Type: Allison 250-C 20 B
- Power: 2 x SHP 420

Twin engine power:

- At take-off: SHP 740
- Max. continuous: SHP 740
- Max. transitory (6 seconds): SHP 856

Single engine power:

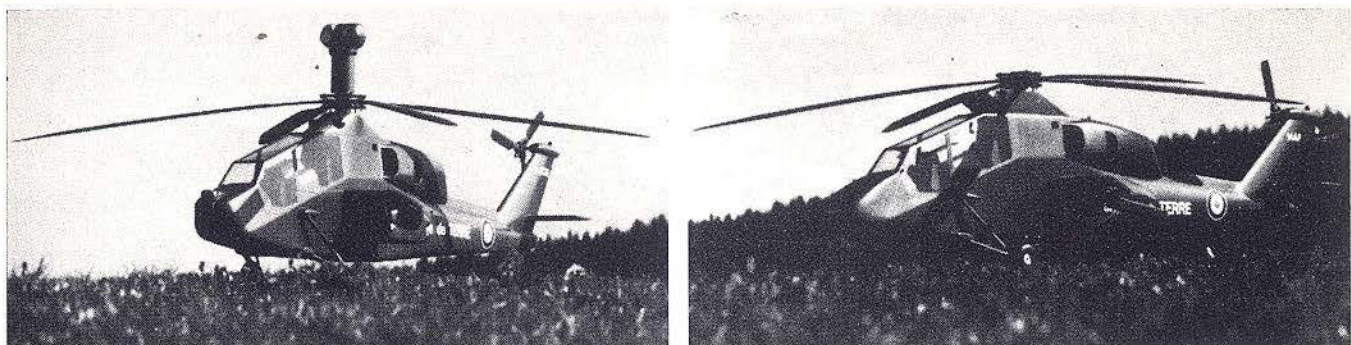
- At take-off: SHP 420
- Max. continuous: SHP 420
- Max. transitory (10 seconds): SHP 450

Performances

(ISA conditions at sea level):

- Take-off load: 2250-2600 kg
- Ceiling (twin engine: 100 ft/min): 4570-4450 m; 15000-14600 ft.
- Ceiling (single engine: 100 ft/min): 3292-1616 m; 10800-5500 ft.
- Ceiling in hovering:
 - with soil effect: 3749-2408 m; 12300-7900 ft.
 - out of soil effect: 2732-1440 m; 9300-4900 ft.
- Climbing speed (twin engine): 2110-1650 ft/min
- Climbing speed (single engine): 500-255 ft/min.





THE FRENCH-GERMAN ANTITANK HELICOPTER

The Defense Ministries of France and West Germany have signed a memorandum of understanding for the development of a common program concerning a new antitank helicopter. The interested firms are the German MBB and the French Aerospatiale. They shall start a joint venture, called "Eurocopter", based in Paris and charged with the coordination of the whole program.

The basic machine shall be developed in three versions depending from the different needs of each Force and produced up to a total of 427 aircraft.

The first French version shall be the HAP (Hélicoptère d'Appui et de Protection), an escort and logistic support aircraft, equipped with a 30 mm gun and 4 air-to-air Matra AAM missiles. The helicopter shall be delivered in 1992.

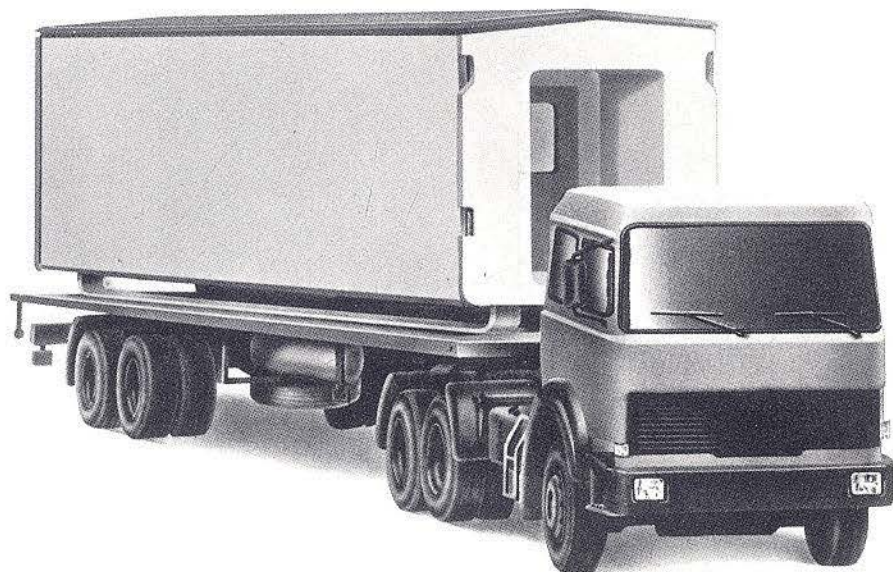
By 1996 has been foreseen the introduction within the Armée de Terre (French Army) of the version HAC 3 (Hélicoptère Anti-Chars de la 3^{me} Génération = Antitank Helicopter of the 3rd Generation), equipped with ATGW 3 missiles (Anti-tank Weapons of Third Generation) and with an infrared camera, mounted on top of the rotor and orientable from the cockpit.

The West German Army shall adopt it starting from

1993. It is a 2nd generation antitank helicopter called PAH (Panzer Abwehr Hubschrauber der 2^{en} Generation), equipped with an infrared front camera for the pilot and the gunner, 8 antitank HOT 2 missiles and 4 air-to-air AAM missiles.

Later the helicopter shall be probably equipped with a third generation weapon system of the "fire and forget" type.

All the aircraft of the Eurocopter program shall mount two MTM 385 R 900 Kw engines, produced by MTU and Turbomeca. The maximum take-off load shall be 5 tons; the cruising speed, respectively, of 250 km/h for the German PAH 2 and of 280 km/h for the French HAP and HAC G3; the maximum duration: around 2½ hours, plus 20 min. reserve.



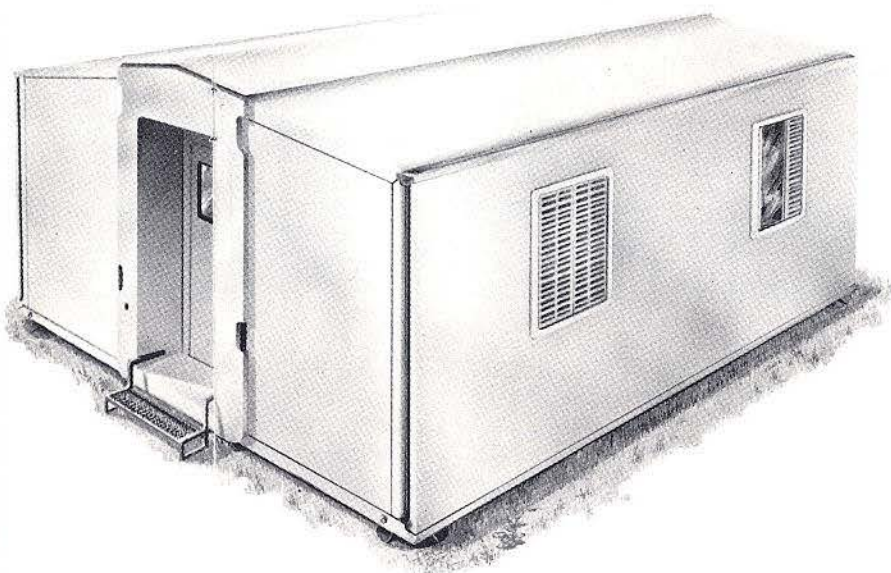
EMERGENCY DWELLING SYSTEM

The IRI-Italstat Group has sponsored a study and testing campaign to reach a modern housing solution for emergency cases.

Several experiences have convinced the researchers of

the necessity to abandon, for timely, economical and psychological reasons and for the convenience to avoid any dispersion of human and economic resources, the old assistance formula based upon the fixed course of tent-caravan-container-prefabricated housing.

The SAPI System (Sistema Abitativo di Pronto Intervento

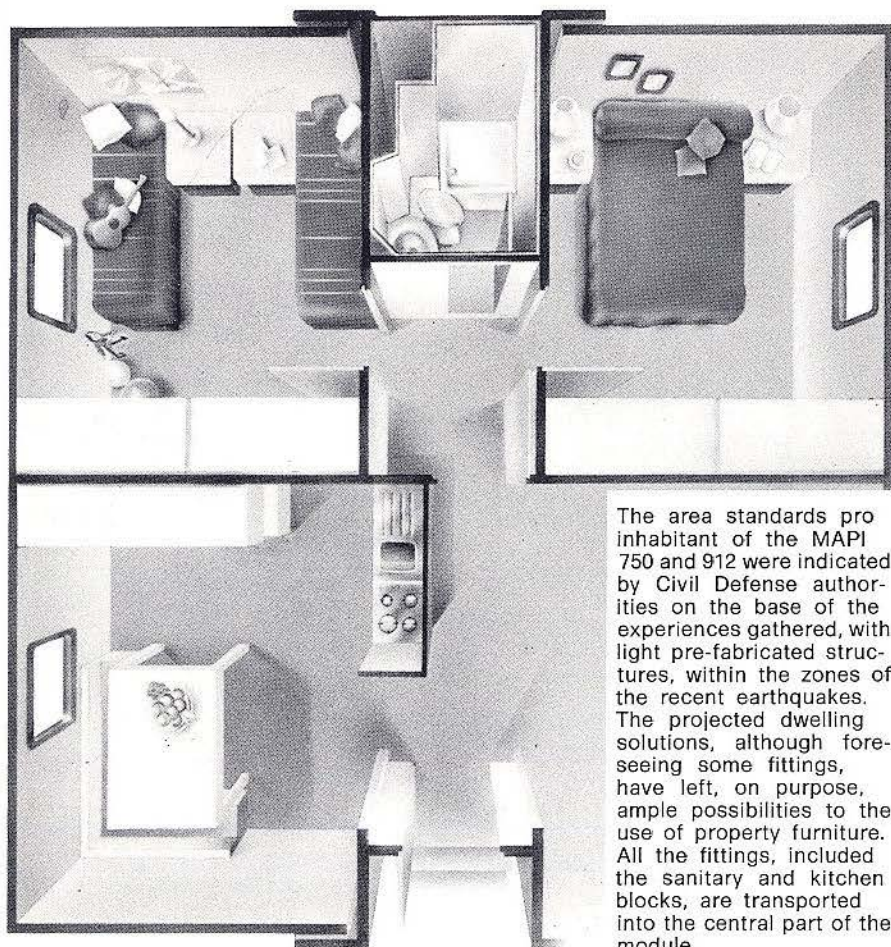


= Emergency dwelling system) meets such requirements and permits to face a wide range of situations. The project philosophy is based upon the idea of constructing a dwelling unit – formed by completely re-usable elements – with all its pertaining commodities and such as to grant the provisional resettling of those who have been caught by a disaster or the installation of emergency operational groups even for relatively long periods of time.

Some basic standards have been then singled out such as, for example, the use of totally equipped modules capable of increasing their surface up to three times as much and of an extremely careful selection of materials.

The system is formed by:

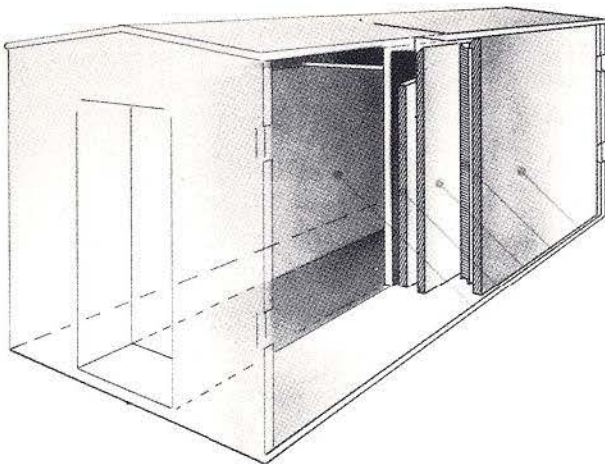
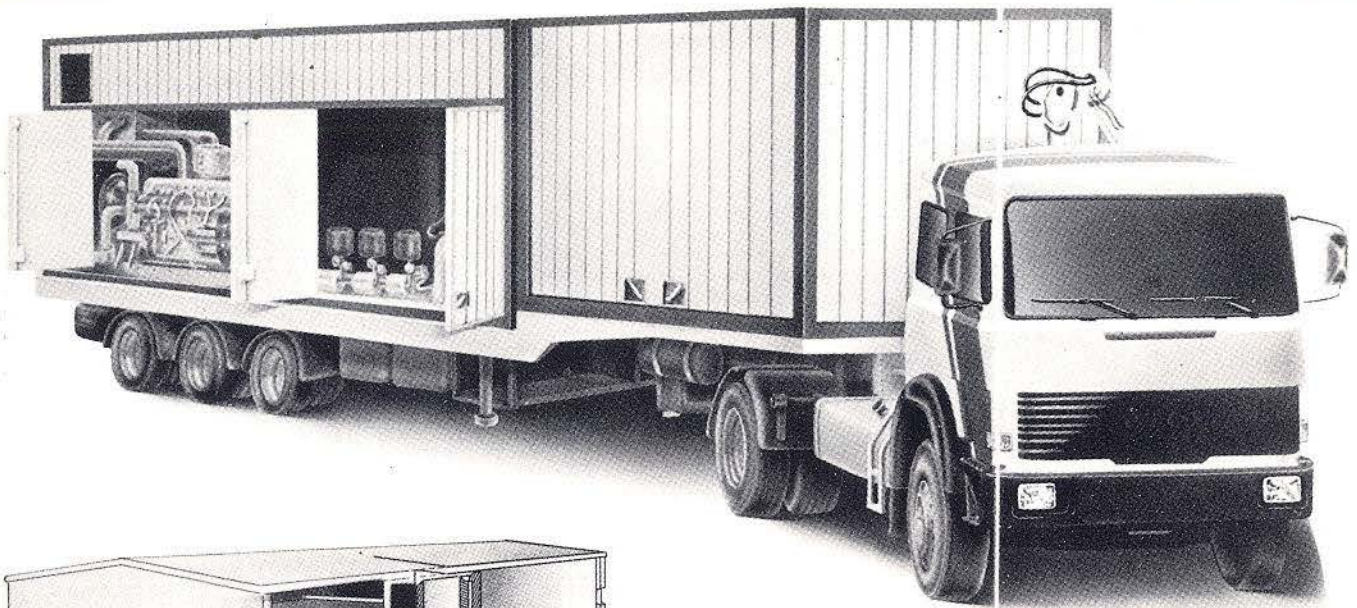
- *Multi-use Modules* (Moduli Pluriuso - MPL) having various dimensions, for housing uses or for secondary urbanization (medicare, schools, etc.).
- *Connection Modules* (Moduli di Connettivo - MCO) to be used for a more complex urbanization and to connect MPL's between them.
- *Self-propelled Service Modules* (Moduli di Servizio Semoventi - MSS) to ensure a self-sufficient housing for the first period (water supply, electrical power, etc.).
- *Industrialized and re-usable components for infrastructures*, i.e. for foot and vehicle traffic, sewer network, etc.



The area standards pro inhabitant of the MAPI 750 and 912 were indicated by Civil Defense authorities on the base of the experiences gathered, with light pre-fabricated structures, within the zones of the recent earthquakes. The projected dwelling solutions, although foreseeing some fittings, have left, on purpose, ample possibilities to the use of property furniture. All the fittings, included the sanitary and kitchen blocks, are transported into the central part of the module.

The SAPI System performances might be divided into the following four categories:

- psychological and environmental requirements to keep the image of a true dwelling: planimetry of a regular form, floor rigidity, wide windows, covered area in front of the entrance;
- functional and use requirements: dwelling area standard of 11 or 14 square meters pro resident, high safety levels, con-



Floor
Lateral wall
Roof
Front wall
Central area containing, for transport, inner partitions and fittings

sanitary and kitchen groups are blockwise composed and the lighting system is formed by complex components.

Each MPL module self-contains the internal partitions, some folding furniture elements and the food and first aid kits.

Once laid down on the ground with its supporting arms (a self-contained winch permits rotation and upsetting operations), the module is rendered practicable within 20 minutes.

The MCO module grants the connection among several MPL modules through orthogonal junctions, thus favouring more complex urbanizations or simply forming entrance halls or corridors.

The self-propelled service module MSS is composed by two containers – transportable by a hinged truck trailer – capable to meet, autonomously and for four days, water, power and sewage requirements. Beyond this time limit the module can be resupplied by an external source or on its own: the tractor may be separated from its trailer whilst inflatable water tanks and power batteries can be provided. All the connections are ensured by rapid joining clutches.

siderable dwelling comfort, thermic and acoustic isolation;

- general technological requirements: transport capability on road within standard limits, all terrain laying capability, rapid installation without specialized labour, complete re-usability;
- primary and secondary urbanization requirements: possibility to adapt the modules for schools, offices, churches, social centers; self-sufficiency for water and power supply, for sanitation and roads during the first phase of an emergency.

The multi-use MPL module, constructed in three different

dwelling models of, respectively, 44, 54.60 and 66.40 square meters, is transportable by a hinged truck and does not require any police escort on road. The smallest module (3500 kg) can be transported by a helicopter as well.

The external containers of each module have a bearing structure made out of extruded aluminum and are connected by bearing hinges.

Noteworthy is the use of rolled or sandwich-wise plastic materials and of anti-condensing panels. Climatization is ensured by a heat pump; the



THE LAND OTOMAT

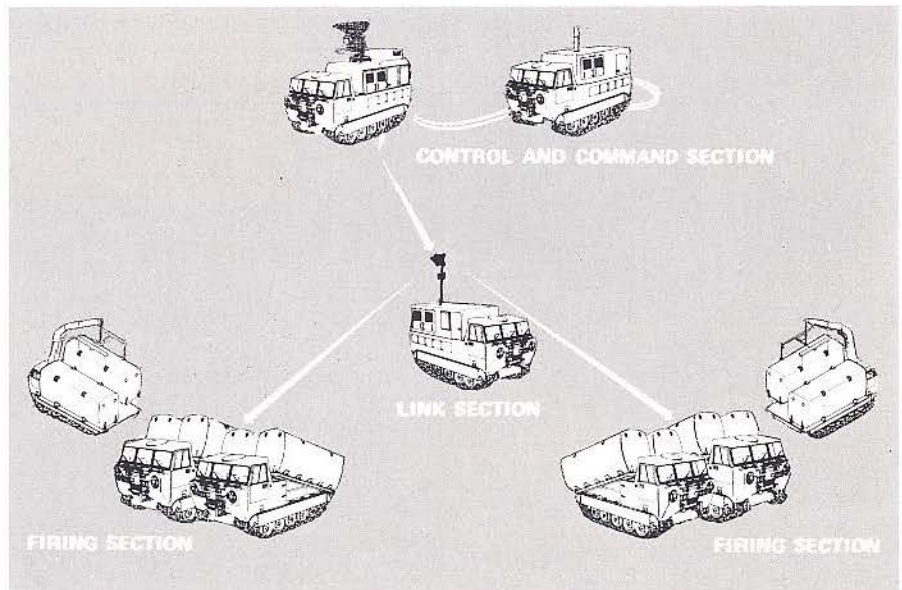
The surface-to-surface all weather OTOMAT system, already adopted by several Navies, has been modified by OTO Melara also for land use, as a mobile coastal defense complex. In this version, OTOMAT can be installed on tracked and wheeled vehicles, one used as a control and command center and the others capable of carrying two missiles each.

The link between the command section and the launching units is maintained by radio, thus covering a large area with only a few means.

In its land version the system shows the same features of the naval one and requires only one operator at the monitor, whatever wide the interested area. Depending from the operational context within which the weapon system operates, the S/S OTOMAT can reach the target either guided or through the "launch and forget" technique. When guided, possibility is given to follow the missile trajectory and to obtain a good target discrimination. With the "launch and forget" system, the trajectory is inertial, but radar-assisted, so

as to eliminate or to reduce the enemy's countermeasures.

The destruction capabilities are very high: minor ships are annihilated, the medium ones get out of use and those of major tonnage suffer severe damages. The OTOMAT missile flies at transonic speed, reaches a range beyond the horizon and bears a head loaded with high explosive capable to pierce reinforced steel armours even with a hitting angle of 90°; it is provided with a percussion fuse and is propelled by a turbojet engine and by two acceleration busters.



INFLATABLE DECOYS

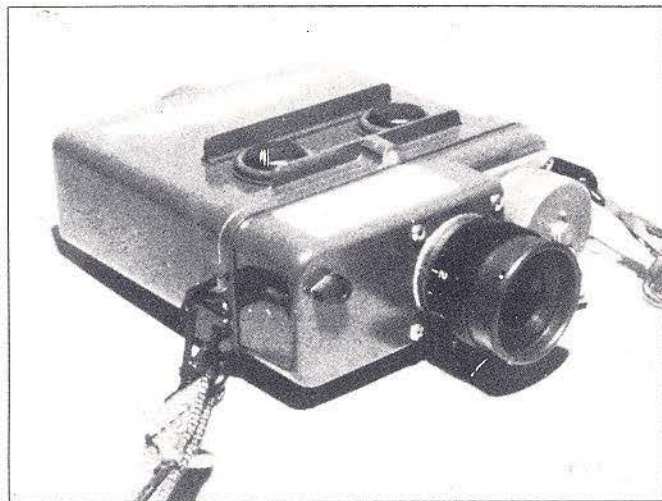
A decoy system, already and successfully experimented during World War 2, has been proposed again in a modern and inexpensive form by the German Ballonfabrik of Augsburg. A simulated anti-aircraft missile battery of nine launching units can be mounted by six men in less than one hour.

The decoy missiles and their supports, made partially inflatable and partially rigid, produce a visual effect very

similar to a real battery.

The inflating system is electric and grants an optimized and, above all, constant pressure, automatically compensating any pressure diminution. The whole complex is fixed to the ground by anchors. The deflation is rapid and is obtained through the simple release of a central switch which automatically opens several valves located on the surface of each decoy, thus making them ready for a quick repacking in their containers.





LASER TARGET LOCATION AND AIMING TECHNOLOGY

Litton has recently introduced among their production two new laser systems: a target locator and an aiming device,

both offered for the first time at the Farnborough show.

The target locator (fig. 1), of the type LTWM, weighs 5,5 kg and can be used with or without its tripod. Principally employed to indicate from a land position, targets to the supporting aircraft and artilleries, the system

is composed by a transmitter, by some lithium batteries and by the tactical container to transport it.

The aiming device MK V (fig. 2) weighs only 1 kg. Conceived for the artillery, but also for special troops, it has a target location range of 10 km.

NEW LAUNCHING SIMULATOR FOR THE ANTITANK MILAN SYSTEM

The Ferranti Ltd. of Manchester has improved its new launching simulator for the anti-tank Milan system.

The device reproduces perfectly a Milan complex, overcoming the previous concept – which used an adaptation of the simulator to an operative model – and thus reducing the risk of damages to the real equipment. Within this new concept, the instructor avails himself of a command station by which he may change targets and scenarios into the student's screen and add other targets beyond the optimized ones, like helicopters or tanks.

The student receives orders through his headset, selects the



target and fires. The blast is simulated the headset and so are the options of target hit or missed which appear on the screens, both for the instructor and the student.

The system, which employs a visual computerized technology, has been offered at Aldershot during the yearly British Army's equipment exhibition.



ANTI-NBC PROTECTIVE EQUIPMENT

The Pirelli Group, already active within NBC defense before World War 2, and particularly the Sekur Company, have recently deepened and diversified their contribution by an extension of their activity both to the individual as well as to the collective protection equipment.

Individual equipment

Substantially, the individual protective equipment is formed by proper clothing, boots, gloves, gas masks, glasses, filters against polluted air and self-protection devices.

All this includes the normal equipment for the combat forces, as well as the protective means for degassing units or for those charged with specific functions (for example: operators of technical-scientific instruments, ammunition and missile loaders, stevedores of dangerous substances).

The products offered by the Sekur Company include:

• Basic equipment:

- NBC perspiring overalls complete with overshoes, gloves and bag;
- gas masks (M 59);
- NBC filters (M 58).

• Special equipment:

- optical gas masks (M 73);
- tight pneumatic overalls complete with gas mask, overshoes and gloves;
- neoprene or butile rubber boots;
- neoprene or acrylic rubber gloves;
- open cycle, pressurized self-protection devices (NPC 300);
- firemen equipment (VVFF 81);
- gas/dust filters for special protection, included CO;



- oxygen masks and respirators with gas and dust filters;
- anti-gas glasses;
- NBC small filter masks.

• Auxiliary equipment:

- gas masks (C.607);
- combined gas/dust filters (DIRIN 500 NBC);
- anti-fallout overalls complete with masks (C.607), incorporated cap, neoprene gloves and boots.

NBC Perspiring Cloth

Use: by Armed Forces operational units for protection against all NBC agents and nuclear flash.

Wear: over the uniform or combat dress, together with masks M 59 or M 73 and filter M 58.

General:

- colour: IR NATO, olive green or different on request;
- available in three sizes;
- wrapping: in vacuum PVC envelopes;
- transport: by a light waterproof bag.

Components:

- coat with cap and trousers made out of a four layers protective fabric;
- butile rubber boots, nylon reinforced;
- butile rubber five-finger gloves.

Main features:

- clothing: four layers protective fabric; *external layer*: resistant to tearing, oil and water repellent, mimetic colour; *intermediate layer*: glass-fiber, reflective and fire repellent; *inner layer*: polyurethane foam soaked in active coal; *lining*: knitted fabric;
- overshoes: butile rubber vamp, nylon reinforced; butile rubber anti-slipping soles. Easy and rapid to wear over any type of boots; anti-mud, -dust or NBC-agent drops;
- gloves: butile rubber, five fingers, ensuring an effective grip and permitting the use of weapons or instruments.

Total weight: 3 kg.

Collective protection equipment

In several situations the individual protective equipment is not compatible with operational functions or cannot be generally supplied; to face such cases, several collective protection systems have been produced.

Substantially, a complete NBC collective protection system is formed by:

- a tight structure or covering;
- a ventilation system with NBC filters;



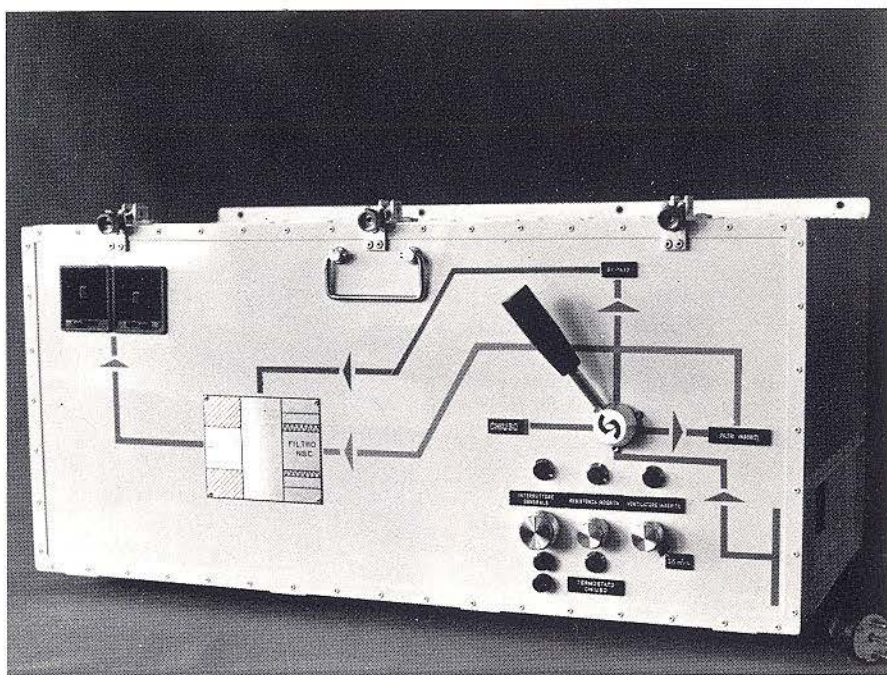
— air in- and outlets with anti-blast valves, adjusted to maintain overpressurized the inner room;

— control systems for personnel access to prevent any contamination of the protected area.

The Sekur Company produces filter and NBC protection units to be used within:

— fixed installations (fortifications, operational commands, communication centers, accommodations, vehicle and aircraft shelters, workshops, hospitals, storages, etc.). In short: military installations used by land forces air and naval bases, protection of major centers;

— installations on board war-, support- or transport ships.



NBC filter complex SP 85

Description:

The 85 cubic m/h NBC filter complex is a device conceived to filter and/or pressurize a closed and limited room.

The system filters the air which passes through it using a series of suitable elements capable to block both rough and

very thin powders, including biological spores or radioactive elements, and to neutralize chemical agents employed under the forms of aerosol or gas.

Features of the complex:

- capability: 85 cubic m/h;
- total weight: 40 kg;
- dimensions: 420 mm × 690 mm;
- Δp tot.: 70 mm H₂O.

NBC filter complex SP 35

TECHNICAL FEATURES

Weights and dimensions:

Complex: total weight 29 kg
NBC filter case: weight 8,2 kg
Muffler and electrofan case: weight 6,3 kg

Protection capability:

- Pre-filter:
Effectiveness: 98%
Surface: 0,010 sq.m
- Anti-aerosol filter:
Effectiveness: 99,997%

Air-flow capacity:

Nominal: 35 cubic m/h
Real: continuously adjustable from 0 to 60 cubic m/h

Electric power:

Resistance: 400 W
Electrofan: 400 W

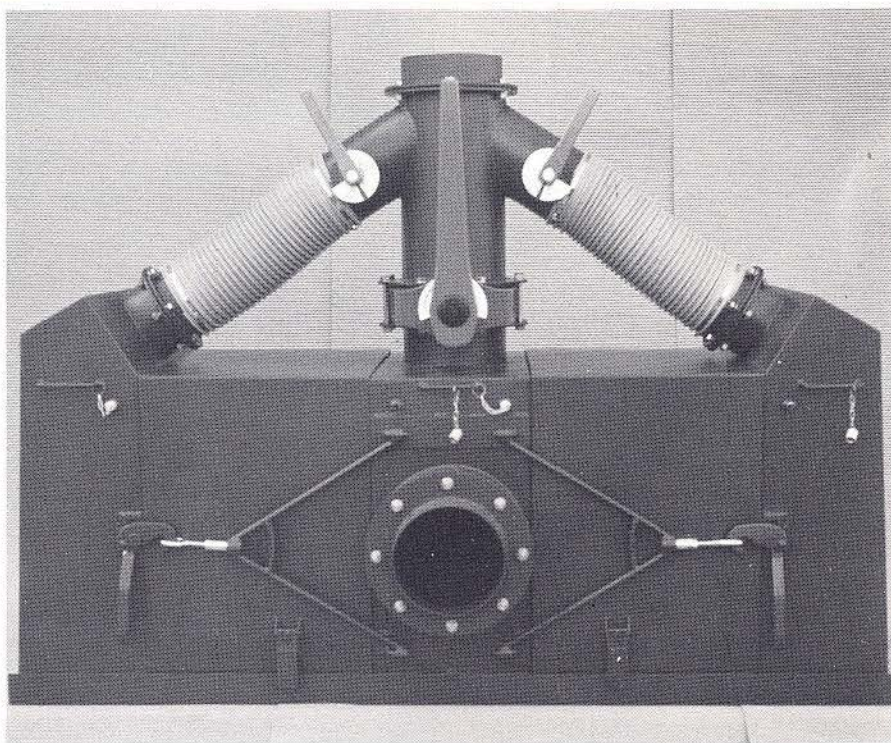


*NBC filter complex
SP 1200*

The 1200 cubic m/h NBC filter complex is a device constructed to ventilate and/or pressurize a medium-size closed area through the input of fresh air, free from chemical, biological or radioactive contamination.

In particular, the complex filters the air which passes through it with the action of a series of proper elements capable to block the passage of rough but also very thin powders, including biological spores or radioactive elements, and to neutralize chemical agents employed under the form of aerosol or gas.

The complex has a capability of 1200 cubic m/h and a total weight of 350 kg.



sea mines
land mines
scattering systems
coastal defence systems

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MISAR



THE 35 mm ÖERLIKON-OTO MELARA TWIN GUN

For its versatility and the broad possibilities of employment, the 35 mm Öerlikon-OTO Melara twin gun is one of the best known weapons within the navies.

The gun has been mainly conceived for anti-air and anti-missile employment, but can be used against ships or for land fire as well. Particular features of the complex – which mounts the 35 mm Öerlikon KDA 35/90 gun, capable of a stockage of 800 rounds – are its low weight and reduced general dimensions. Noteworthy is the rapidity with which the gun reacts to commands and the high fire celerity (550 rounds/min for each tube). The manoeuvrability of the weapon is guaranteed, also when mounted on a poorly stabilized base, by the automatic exclusion of inaccurate manual operations.



The twin loaders feeding system permits to select, also through remote control, the various ammunition types; the fiber-glass shield is tight against bad weather conditions and gives easy access for maintenance, made even simpler by the modularity of the spare parts.

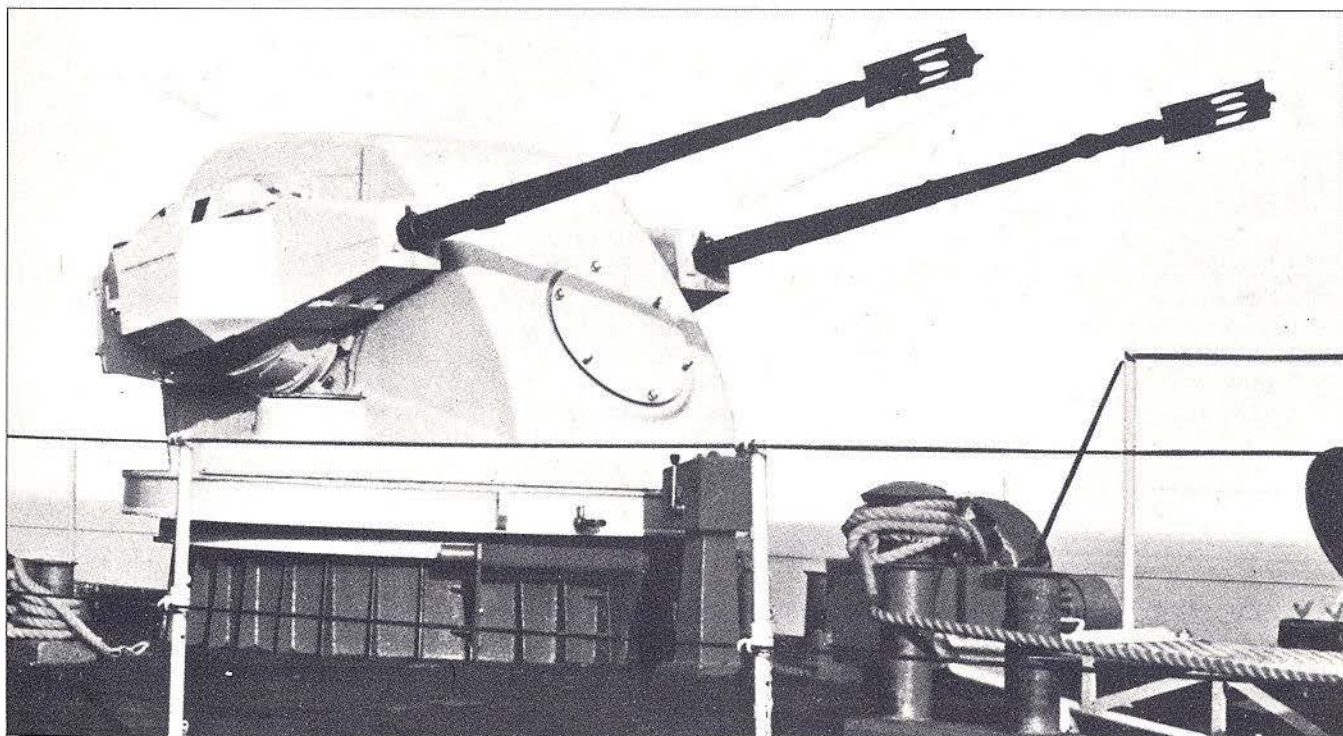
The operating principle is the classic one of gas recuper-

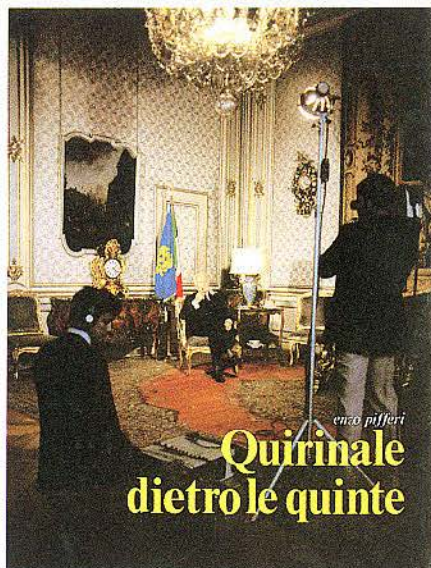
ation; leading is ensured by 400 round loaders with servo-fed guides which exclude any manual operation up to the ammunition exhaustion. Fire can be remotely controlled and executed.

The elevation servo-mechanisms are electric-powered, whilst those for feeding, loading and fire operations are hydraulic. Each barrel bears, at its muzzle, an instrument to measure the shot velocity (initial velocity gauge) which sends this information to the firing computer.

The 35 mm ÖE/OTO uses four ammunition types:

- HE and incendiary rounds with self destructive fuse for anti-missile and anti-aircraft employment;
- piercing and incendiary rounds with percussion fuse for light armoured targets;
- piercing rounds for heavy armoured targets;
- tracers.





E. Pifferi: "Quirinale dietro le quinte" (Backstage Quirinale), ed. E.P.I., Como, price not available.

Valuable publication for its typographical appearance and its photographic content, "Quirinale dietro le quinte" has also the little magic charm of a discovery; it opens for us the doors of a Palace which has had so great a meaning in the history of Rome and Italy and which represents today not only the residence of our Presidents, but also the home of a man who has gained himself, as never before, respect, liking and sincere affection from all the Italians. Hence a particular curiosity which does not content itself only by admiring the art treasures and the precious architectural aspects of the palace, but wants to go beyond and to participate, from within, in the active life of President Pertini, in his milieu and among those who in many ways cooperate with him at every level. And the book has wonderful responses for such expectations. The swift text by Michelangelo Jacobucci introduces us imme-

diately in the busy atmosphere pervading those rooms and forms a pleasant guide to the images showing the routine activities and, therefore, the engagement by which tradition and future proceed together in clear harmony.

Evidence of it are, among other things, the imposing figure of the liveried doorman in his gala uniform, the craftsmen active in maintenance and restoration works, the warm candlelight which enhances the magnificence of the golden stuccoes, but also the monitor of a computer in an electronic file, a teletype keyboard, the view of a modern printing office.

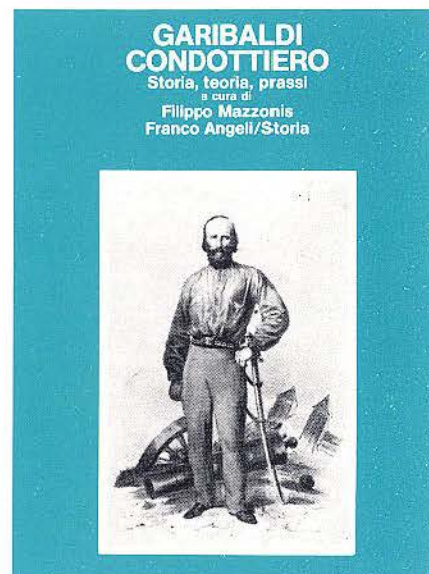
Another continuous and at the same time discreet presence deserves to be mentioned: that of the Armed Forces, here represented by the Carabinieri Guards of the President – the so-called Corazzieri, whose image is tied to that of the Chief of the State and by our young conscripts having the task – considered a honour – to stand guard to the palace.

The Grenadiers of Sardinia in their ample red-lined capes and the Cavalrymen with their long lances – jealous vestiges of a glorious past as well as positive signs of the present reality – are shown during the guard's relieve. This was, time ago, a daily ceremony held at Monte Cavallo Square, reached by the units marching after their bands; it has been recently re-established in the same form, although only once a month, in obedience to the frantic traffic demand of our days. And this is another sign of a strong tradition which nourishes the ideal humus giving life and incentive to the entire palace.

The men in uniform are a symbol of all the Army's branches, of the Navy, of the Air Force and of all the young generations – a promise for the future – citizens

of an Italy believing in itself and in its institutes and finding a sure reference in our President, real fulcrum around which rotates and gets full meaning every activity and image of the Quirinale.

Sandro Fantina



F. Mazzonis (by the care of): "Garibaldi Condottiero. Storia, teoria e prassi" (Garibaldi a Condottiere. History, theory and praxis), ed. Franco Angeli, Milan 1984, pages 594, Lire 30,000.

The volume includes the minutes of a meeting organized by the Istituto Studi e Ricerche Difesa (ISTRID - Institute for Studies and Researches on Defense) on the occasion of the centennial of Garibaldi.

The book appears particularly interesting because of the original approach selected, which is twofold. It puts, on one side, the condottiere Garibaldi and his military concepts within the frame of the evolution undergone by the military thought of our Risorgimento, strictly tied with

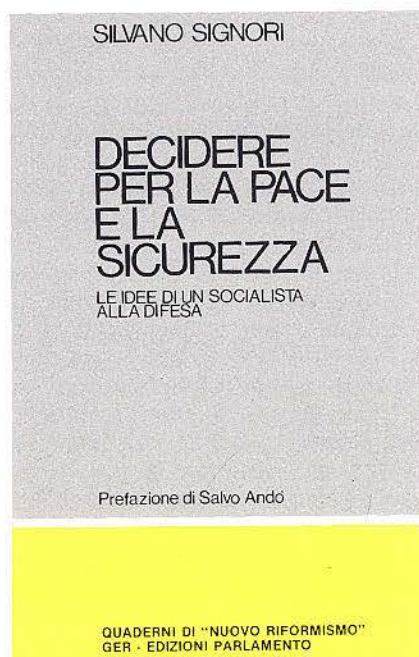


the political ideas not only stemming from the democratic movement, but also from the moderate party. On the other hand, it considers how much influence have had the figure, the ideas and the activity of Garibaldi on the elaboration of the Italian political and military thoughts after the Risorgimento period, up to the Resistenza, and how the Garibaldi myth, still alive and active, has been exploited by various political movements to support their own choices. The selected approach is an extremely stimulating one just because military history, be it on the doctrine or praxis level, becomes actual only when examined within a social and political context, and under an economic and ideological one as well. Military and social institutions are always strictly tied together. Some determining factors of the military forces depend directly on the links between army and society: organization, disciplinary regulation and praxis, political-military relations. The various essays of this volume, and in particular those by Della Peruta ("Military theories of our democracy during the Risorgimento"), Rochat ("The military genius of Garibaldi"), Mazzonis ("The Italian Army at Garibaldi's time"), Del Negro ("Garibaldi between the royal army and the armed nation: the recruitment problem") and Franzosi ("Garibaldi between myth and history in Italy at the time of King Humbert and Giolitti") are a clear example of how some extremely topical problems of our Army have their origin just where Italy and its military institutes have had their beginning.

It is, in summary, a stimulating work not only because of the variety of its themes and of the ideological approaches selected to study them, but also because it remains above the contingency of historical events, trying to

establish a bridge between past and present time. Only this is the way to acquire a deep and not only superficial understanding of some fundamental aspects of our national military history and of the reasons why our military institutions, their place within the social context and the military profession in Italy are what they are today.

Carlo Bess



S. Signori: "Decidere per la pace e la sicurezza" (Decisions for peace and security), ed. Parlamento, pages 118, Lire 10,000.

In this work, short but rich in contents, the Author initially considers the problems tied to the international balance, to the Atlantic Alliance and to Europe and the steps already taken and still to take along the difficult way of peace within security and democracy. He examines then the institutional context of defense and of our Armed Forces, their role and

effectiveness, emphasizing the personnel problems. Finally his attention is driven to the relations between defense and industry, to international cooperation and to the connected economical links. Starting from the premise that a status of persisting unsafety, imposed by the military superiority of the Warsaw Pact, is unacceptable and that a submissive attitude of the West can only legitimate the Soviet pretensions, the Author hopes for a strengthening of NATO. This may happen provided Europe finds anew a strong unitarian incentive, also to fill the technological and armament gaps which make it dependent from the United States for its own defense and security. Only when having its proper voice within the international context, Europe shall be able to decide autonomously its own destiny.

Hence the need of an ample political initiative, of a qualitative leap which can be accomplished by the European nations through the European Parliament, freely elected.

The Author does not limit his study to the comparison between the military capabilities of the two major systems of our time and to the consideration of the political and strategic theories which direct the present confrontation crisis between them; he proposes also some choices and positive initiatives to maintain the international stability.

In this context he reaffirms the necessity of not interrupting the dialogue between the two blocs and to ameliorate mutual information so as to avoid that the most intolerant circles may resort to irrational motives to justify a military action.

As far as Italy is concerned, the on. Signori outlines the need of a more strict coordination between foreign and defense policies and considers, in par-



ticular, the problems concerning our Armed Forces and the initiatives taken in this field by the government.

He examines the perspectives of technological modernization and of a new organization of the forces in comparison to the budgetary possibilities and, for the defense personnel, the reforms of housing and careers. He thus reviews all the major problems, without omitting the relations of our country and of Europe with the Third World and giving some indications on what must still be accomplished and on the policies to follow.

Giorgio Anedda

PROBLEMI DEL SOCIALISMO / I

**PACE E SICUREZZA
PROBLEMI E
ALTERNATIVE**

F. Accame/H. Adheldt/P. Barrera
M.L. Boccia/P. Buffotot/L. Caligaris
L. Castellina/F. Cerutti/D. Collingridge
A. Guerra/P. Joseph/M. Pianta/G. Proccacci
B. Schoch/L. Specht/S. Tiedtke/F. Tonello

FRANCO ANGELI

Various Authors: "Pace e Sicurezza. Problemi e alternative" (Peace and Security. Problems and alternatives), ed. F. Angeli, Milan 1984, pages 235, Lire 16,000.

The volume assembles about twenty essays by authors of very different political positions,

from Falco Accame to Luigi Caligaris. Its key point is the crisis entered, at the beginnings of the '80, by the two principal factors of the strategic-political balance during the years after World War 2.

On one side, the bipolar system and the various deterrence theories connected with it. The two superpowers have great difficulty to control the respective "engagements" and, above all, the unrests showing up at the periphery of the industrialized world. The present technological revolution raises not only the dispute on power relations among states, but involves the social and political institutions as well. The nuclear deterrence system, based on a capability of mutual ensured destruction, is nowadays discussed and in rapid evolution towards more complex and articulated forms based – on the last instance – over the possibility to "win" through a war. Clear evidence of it is given, on one side, by the efforts to associate, with the offensive strategic capabilities, the defensive ones so as to "conventionalize" the European defense and to integrate more and more, in acceptable doctrines, the mini- and special nuclear weapons. The technological progress is being speeded up and becomes today a destabilizing factor.

A second aspect marks the present situation, i.e. the crisis of the world integration hopes, based upon the hypothesis of a substantial convergency of interests to keep stability. What suffers a crisis is, in other words, the United Nations concept of international relations which assumed, in the past, the capability, by super-national and international bodies, to ensure peace within a frame of identical security for all the nations. International policy, in conclusion, becomes more militarized. Within this context, the bipolar

USA-URSS system remains strongly competitive.

All the hypotheses of peaceful settlement of the quarrel existing between the territorial and the market empires (a prerequisite for a controlled disarmament) have been misled by different concepts of détente. The Soviet Union has taken profit of it to augment its military power and to conduct, on a world-wide scale, a more dynamic policy.

Of what nature shall be the last outcome of the present evolving trends appears difficult to find out. The same can be said about concrete measures to avoid that the present status of confusion and détente may lead into uncontrollable crises originating a direct confrontation between the blocs, surely full of tragic consequences for the whole humanity.

The various contributions to this book are not aimed at supporting a specific and preconceived thesis, nor to propose solutions. They only consider the problem from different points of view examining it deeply and critically as a premise for new researches. One remains a constant motive: the request of a major role for Europe, not only to ensure its own security and to disengage it from the present over-dependence from the two superpowers, but also to contribute to the establishment of new balances, essential to avoid a conflict.

It is evident that any further weakness of the bipolar system deriving from it shall show not indifferent risks and dangers. Such challenges cannot be ignored, nor avoided.

The developing trends of the present worldwide political-strategic system are, in fact, not acceptable in so far they cause an unavoidable escalation of crises and contrasts.

Carlo Bess

**AREL**
**LA SICUREZZA
DELL'EUROPA:
RETORICA E REALTÀ**

 a cura di
Luigi Caligaris
il Mulino

"La sicurezza dell'Europa: retorica e realtà" (The security of Europe: rhetoric and facts), ed. Il Mulino, Lire 10,000.

This work by AREL (Agency for Research and Legislation, formed by parliamentarians, scholars, managers, entrepreneurs and trade-unionists), edited by Luigi Caligaris, assembles the contributions on defense policy of the major Italian and foreign experts gathered at Florence during the 4th Seminary on Foreign Policy. The study of the more topical questions and of the problems related to the process of European defensive integration is conducted in an interesting and complete way.

The work opens with an introduction by Nino Andreatta, who outlines the doubts, the uncertainties and the perspectives which may arise from a defensively more united Europe considering, moreover, the possible international consequences of such a choice.

Luigi Caligaris, in an ample geopolitical European overview, outlines how the political partitions – which see the Old Continent

split into one Europe of NATO, one of the Warsaw Pact and one of the non-aligned nations – play a fundamental role. A better defended Europe or a Europe which, to really reach such objectives, is compelled to conduct a more cohesive policy? Caligaris does not forget that in this so various and sometimes selfish context Italy is the country more inclined to give up, at least, a part of its own sovereignty in favour of the common interests. The analysis of the problem cannot be conducted without separating from the political considerations a strategic discussion permitting to indicate common trends for the future. Robert Komer considers the U.S. position towards Europe in the light of the present difficult worldwide strategic balance and of the concepts of nuclear and conventional deterrence, stressing some assumptions on possible future developments of new thematics.

Through an analysis of the little and great failures of the past and the contradictions of the present time, Pierre Lelouche tries to define, in his study of atlantism, a series of "guiding ideas" for a real and durable European cooperation concerning defense, without forgetting the severe economical problems that every nation has to face. The difficult relations with the Soviet Union are studied by Robert Nurik from the point of view of a possible geo-political variation – with a more autonomous Europe and the U.S. practically more restrained – which might subvert the present concept of bipolarism, not so much because of the Soviet reactions, but rather because of the change of the present geo-strategical terms of reference.

The British position, which John Roper considers marked by a "pragmatic minimalism", well shown through the attitude to-

wards the EEC, is understood as a dichotomic factor, and not as an integrative one, of a better defended Europe. A more strict cooperation among the European nations would only deteriorate the relations with the United States and surely produce a tension between the two more significant Atlantic partners. The proposals for a more ample and ambitious approach to the development of the European Community in the field of defense policy and in that, much broader, of the military procurements could assure, Roper believes, an economic benefit also for Great Britain.

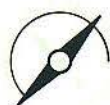
Walter Stuetzle considers the problems stemming from the relations between the two blocs and evaluates the changes which could be produced, both in and out of them, by a defense policy for the European Community. The impossibility of a dialogue outside the North Atlantic context is a not negligible handicap for the Old Continent, practically excluded from the international political-strategic context, polarized by the two global powers and weakened by the atypical and particular position of France. The last part of the volume assembles a series of excerpts from the resolutions taken by the European Parliament and many data concerning the economic problems of European defense. It seems worth to finally underline that, considering all the integration processes and political developments imposed by these choices, AREL has not wanted to answer all the questions concerning real future perspectives of European defense, the links and relations between European defense, Atlantic Alliance and Warsaw Pact from an explanatory and authoritative position, but has rather wanted to propose a clear overview of the themes developed.

Claudio Magris



LA POLITIQUE MILITAIRE SOVIÉTIQUE

CLAUDE DELMAS



PRESSES UNIVERSITAIRES DE FRANCE

C. Delmas: "La Politique Militaire Soviétique" (Soviet military policy). Presses Universitaires de France, Paris 1983, pages 127, Fr.f. 30.

Every praxis presupposes a theory.

The latter is always conditioned by an ideological system – in terms of certain state conceptions of international relations, of the role and the benefit of the military function – as well as by geographical, economic and technological facts. Decisive are the geographical factors, subject only to marginal modifications. They exert a deep influence upon history and, therefore, upon the traditions and the mentality of every nation. The work of C. Delmas shows clearly the connections between all these aspects and stresses the fact that, in spite of the innovating force of the marxist-leninist ideology and its particular concept of the state, of the

international system and of the role of military power, the Soviet military policy has been and still is conditioned by the traditional achievements of imperial Russia and by its historical experience.

The volume does not study the evolution of the Soviet military thought from the revolution to our days, nor the military strategy adopted each time. Using the term "military policy", the Author refers to a field which stays, in a certain sense, at the converging point between military thought and military strategy; between theory and praxis. The Soviet military policy has constantly made reference, and still does, to the ideology. But the latter, in its practical achievement, is frequently only an alibi to support choices decided by geo-political considerations. What is essential is to understand the two strictly connected aspects of the ideology which have, from time to time, determined its nature: the defensive aspect and the offensive one. From a defensive point of view, the Soviet Union is the socialist rampart constantly threatened – according to Lenin's dogma – by the imperialist forces of counter-revolution but, more concretely, this is due to its nature of continental empire surrounded by a maritime empire. Under the offensive aspect, the military policy is conditioned both by the geo-political national interests of the Soviet Union, as well as by the fact that it represents an instrument in favour of the "revolution", i.e. of the expansion of socialism. According to the ideological dogma, all this goes in the "sense of history". Hence the distinction between right and wrong wars: right wars are those which favour the predominance of socialism over imperialism. In spite of the ideological changes produced by the appearance of the nuclear weap-

ons, such a distinction forms a constant assumption of the Soviet strategy and military thought.

Lenin has affirmed that the military problem forms, within history, the key point of every political problem. But the military aspect is marked by its own features and conditions: geo-strategical, economic, social and technological. The ideology can modify these facts, although only on the surface. The consequence is a tension between the imperatives dictated by ideology, which form the legitimate bases of the political power, the real situation and the military requirements. Depending from circumstances, the Soviet military policy has balanced within these two poles, with inevitable tensions, both internal to the Armed Forces as well as between these and the political power.

In particular, the Soviet Union is a continental power. Up to the point when it has acquired the capability to project its military force beyond the ocean, it has been compelled to balance the requirements of a defensive military strategy with those of an offensive diplomacy. Later, even the strategy has turned clearly offensive and the ideology was reinforced, even if not becoming acceptable, at least in its real possibilities to express itself. This is a fact to be taken into account; the requirement to conduct an offensive strategy is becoming a very important component of a more legitimate power of the present Soviet ruling class. Dialectics between ideology and strategy, which hampered in the past the Soviet expansion, have disappeared or have been, at least, strongly toned down. And this is a risk for the West.

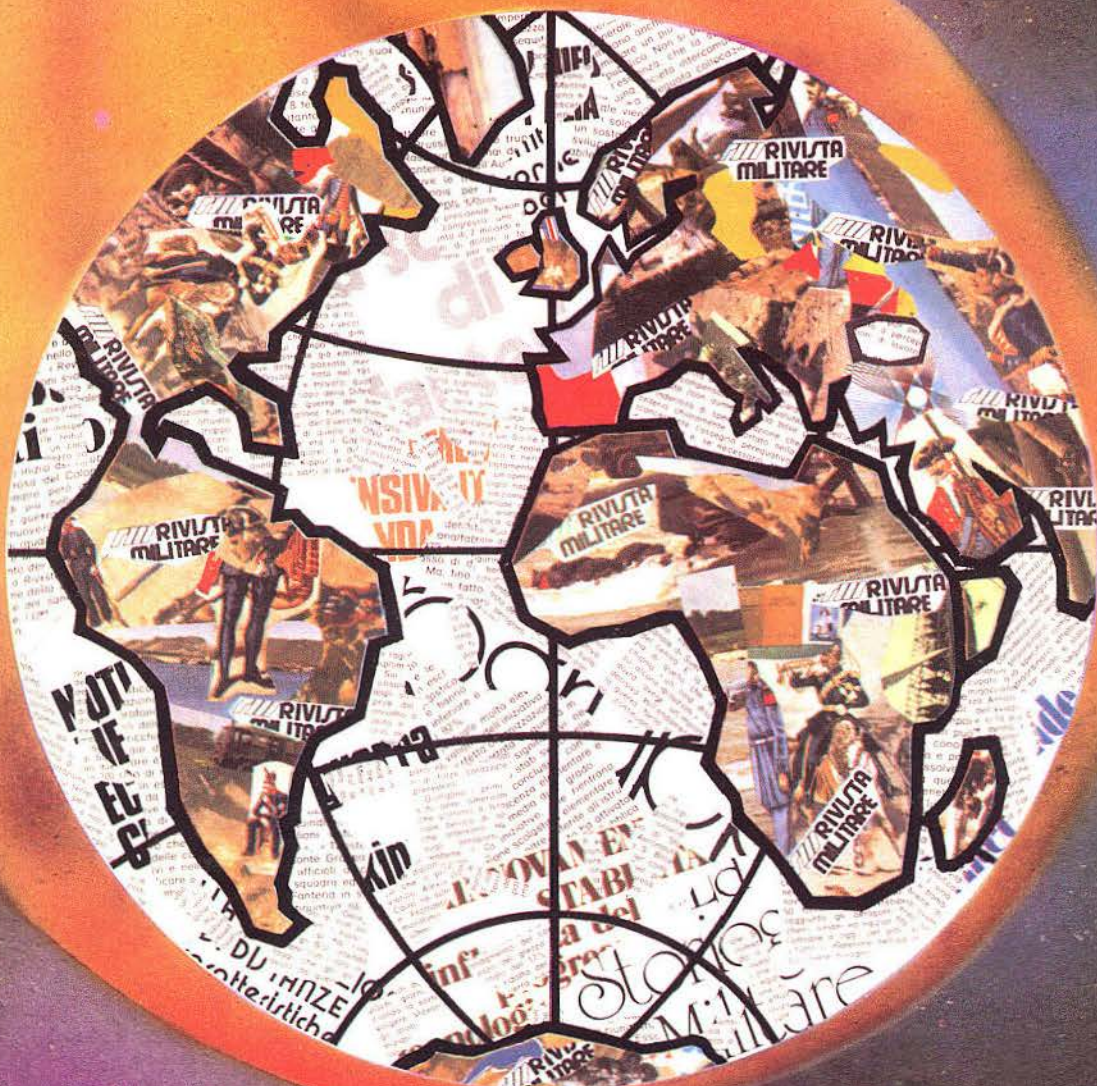
Carlo Jean

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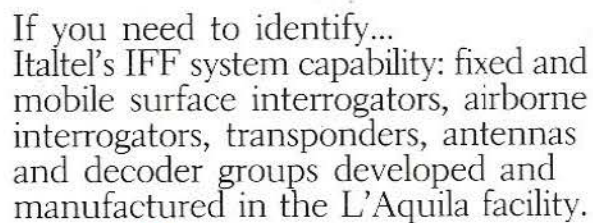
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AND... ENVIRONMENT

IN CASE OF...



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CONTENTS



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The aim of the Rivista Militare is to broaden and update the technical and vocational training of Army Officers and NCOs. To this end it functions as a vehicle for the dissemination of military thinking and as a forum of study and debate. The Rivista Militare is also intended to be a means of informing the general public about the Army and military matters through the publication of articles of current technical and scientific interest.

Collective Security and NATO.

(Umberto Cappuzzo)

2



Ethics and Militariness.

(Ciro Di Martino)

16

The Realities of NATO Security.

(Bernard W. Rogers)

26

Evolution of the NATO Strategy ... with a bit of Science Fiction.

(Luigi Salatiello)

36

Tanks Antitanks and... Environment.

(★★★)

51

The Frontier of Freedom. With the "Legnano Combat Group" in 1945.

(Giorgio Donati)

59

The Royal Italian Army 1915-1918.

(Valerio Gibellini)

71



Technical Data.

78

Book Reviews.

81

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COLLECTIVE SECURITY

AND NATO



INTRODUCTION

When – as in the case at hand – one confronts problems which, though they may be general ones, can still be traced back to principles and concepts already firmly established on the scientific plane or analyzed by experts from specific disciplines, when faced with such dangers, a break with the accepted doctrine, or an attempt at giving certain aspects of this doctrine a personal interpretation, is a hazardous undertaking.

I will run this risk in dealing with the topic in question, not because I wish to seem original, but because it seems to me that a certain number of original political considerations lend the problem scientific connotations, though these may not be scientific at all.

I am referring to the vast field of international law in which “collective security” has a precise place, being clearly defined as “a system of mutual guardianship subscribed to by two or more states which allows each of these to depend upon the solidarity of all the others in the eventuality of international aggression” (from the entry “security” in the “Italian Encyclopedic Dictionary”, published by the Italian Encyclopedia Institute - Vol. XI - pg. 260).

The question soon arises as to how and where such a principle may be put into practice.

The mind quickly pictures some type of international organization oriented towards universality or, for the more geographically confined areas, associations of peoples whose governing structures share common denominators (an appeal to the same set of values, similar political regimes).

Having momentarily put aside the overall solution (the one tending towards universality) due to a lack of examples, we should look at the concept of “collective security” within a set

of more limited contexts. Here is where the idea currently functions and shows a fair amount of promise.

NATO and the Warsaw Pact nations are two cases in point.

The subject becomes more complicated when one considers, as has been done, a hypothetical “collective security” backed simultaneously by both alliances.

Without questioning the wisdom of pursuing security, an absolute prerequisite to growth and progress, I wish to examine the limits of “collective security” in its most widely accepted form and express my doubts concerning the instruments meant to transform this concept into concrete, practical policy.

Despite any reservations I might have, though, a look at the broader picture shows that “collective security” was once a relatively popular concept. In the not too distant past, scholars of various persuasions were drawn to it as a means of expressing – in the way of a “slogan” – a possible direction for the evolution of international relations.

An occupational hazard of soldiering is the tendency always to consider security in terms of a threat calling for defensive measures.

The fact is that in a conflict involving the entire planet – such as the one between the Eastern and Western worlds – a conflict which is philosophically characterized by a collectivism absorbing every member of the international community who counts for something politically or militarily, it is very difficult to determine just what sort of threat could possibly endanger the association of nations whose security needs to be guaranteed.

One finds oneself asking, “Against what outside force must the collective be defended?”

If there is any truth to the notion that, in practical terms, collective security is, “a plan for keeping the peace with an organization of sovereign nations committed to defending each other in the eventuality of an attack” (Ronald Stromberg’s definition in the “Encyclopedia



for American Foreign Policy”) then how can we even imagine the launching of an attack against this or that country in a political system where the two superpowers stand together side by side, as do their respective allies?

And who would launch it?

Thus we are brought back to the more limited subject of an individual community: one which in the pursuit of its political ends encounters, or claims to have encountered, opposition from a second community tied to principles, ideals and bonds which lead it to pursue other ends.

NATO has such a connotation and its motivational ideals are valid because it holds to certain values – liberty and democracy – and because it pursues goals such as the elimination of nationalistic selfishness, a balanced growth, and peace.

In accordance with these principles, NATO has accepted some very precise limitations and chosen to follow a code of conduct which rejects the use of force for the resolution of international disputes.

Within these limits, but with a different ideological orientation and different motivational ideals, the same line of reasoning holds for the opposing camp.

In conclusion, there is no doubt that the “collective” whose security is being discussed must be limited in size. Otherwise, the discussion loses all concrete significance.

That having been said, however, I do not wish to exclude any future attempts at creating a web of security relationships between nations from different blocs and even between the opposing blocs themselves: a true network of multilateral relations capable of preventing a

Left.

The duel.



possible conflict from degenerating into something more serious.

Avoiding a war should be the principle goal of an era dominated by the nuclear threat. Indeed, Lawrence Kaplan sees this goal as attainable through what he calls a "restructuring of the international system".

A like effort at restructuring – one which preserves the principal associations so as to avoid a proliferation of protagonists, which would surely give rise to tensions and dangers – could lead us to abandon (though in the classic, pacifist sense, and not for reasons of demagogy) **the Clausewitzian conception of war in which armed conflict is nothing more than a continuation of politics, though through other methods.**

This step forward is more a matter of pragmatism than principle in as much as **we all view the possibility of a nuclear conflict as something belonging to the realm of the irrational.**

For the very reason of its irrationality, the removal of such a possibility leads to a whole series of manoeuvres and counter-manoevres centered around the choice of a substitute. **They result in the identification and acceptance of new forms of war:** forms which represent quite a change – as they often have nothing to do with the direct use of arms or other means of physical and material destruction, though they are highly lethal all the same – and lead to a very interesting confusion of the traditional boundaries which once defined the unequivocal concept of peace (true peace) and the unequivocal concept of war (waged war).

Within this framework, there exists a whole spectrum of **indirect strategic techniques.**

The course of recent events, from the Cold War to the Economic War, demonstrates "ad abundantiam" that we must come to terms with this reality.

Indeed, during a formal peace, nations pursue the same political ends as always, the difference being that their instruments and techniques do not include the classic military confrontation.

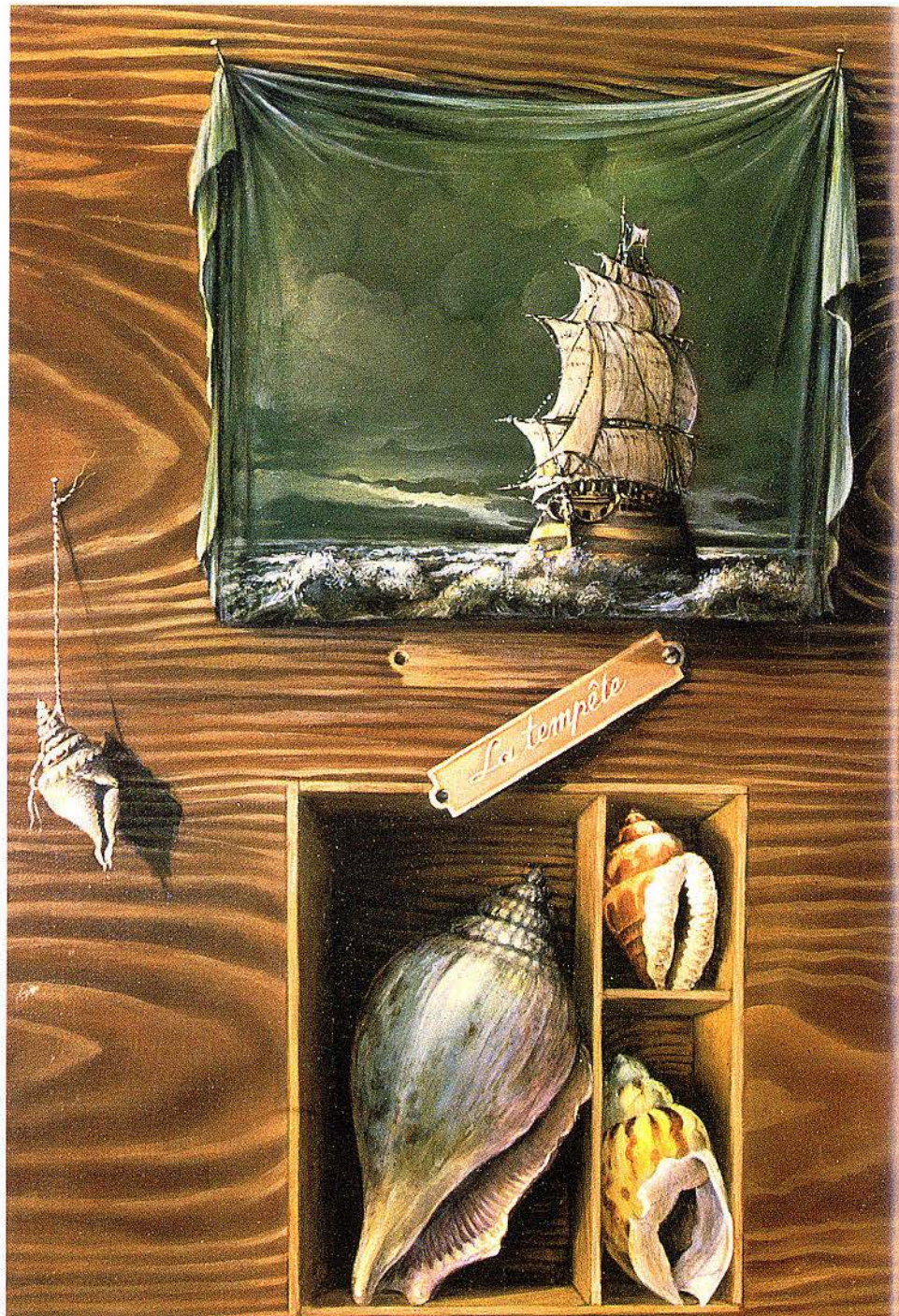
We would seem to have reached the end of an historic cycle characterized by the two extremes of "pax romana" and the "non-war" – a contemporaneous combination of a "semi-

peace" and a "semi-war" – during which, furthermore, tensions did not degenerate into confrontations, nor were agreements synonymous with harmony.

The current situation is characterized by a mixture of tension and a desire for accord: all based on the logic of the **"interrelationship between détente and deterrence"**.

One must ask, at this point, if the policies of this or that alliance reflect the increasingly urgent desire for peace expressed by civil society, and if so, to what extent do they reflect it.

Ultimately, we wish to discover



er any type of solution contributing to the growth of collective security – provided that it falls within the limits already mentioned – which leads us to a world order that is progressively more just and, why not, easier to understand and accept.

ON THE SUBJECT OF COLLECTIVE SECURITY

All of society is demanding security and peace because all of society is afraid, and, naturally, **fear** creates the need for security.

I would like briefly to examine this last phenomenon, one which has a direct effect on security.

Fear turns out to be the most popular sentiment of the 80's. This is evidenced by recent shifts in public opinion which has discovered fear's role as a moving force in history and a powerful evolutionary factor.

In his day, the German philosopher Oswald Spengler defined fear as, "the most powerful of all the primordial sentiments".

Living, as we do, under the constant threat of nuclear destruction, we – men of our times



– see fear as a faithful, diligent, ever-present companion.

We must banish this fear. But how?

A very simple, almost banal comparison comes to mind. Just as we banish our fear of the dark by lighting a light, which then carries our mind's fantasies back to reality, so too can our fear of others be overcome through communication, by getting to know these others, and by letting them get to know us.

Fear, therefore, is overcome with the twin arms of dialogue and information.

And the moment we overcome fear, or even make an attempt, we are working towards the goal of security.

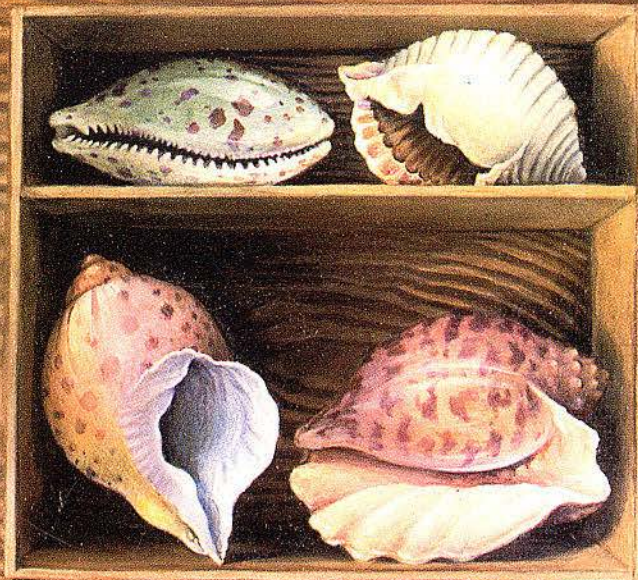
Actually, all we need to do is work backward, attempting to **control our level of insecurity**. Despite its limitations, this method appears to be valid, and it certainly offers very interesting possibilities.

Inverting the problem – that is to say, attempting to **solve it by raising the level of security** – poses a number of other problems, none of them simple.

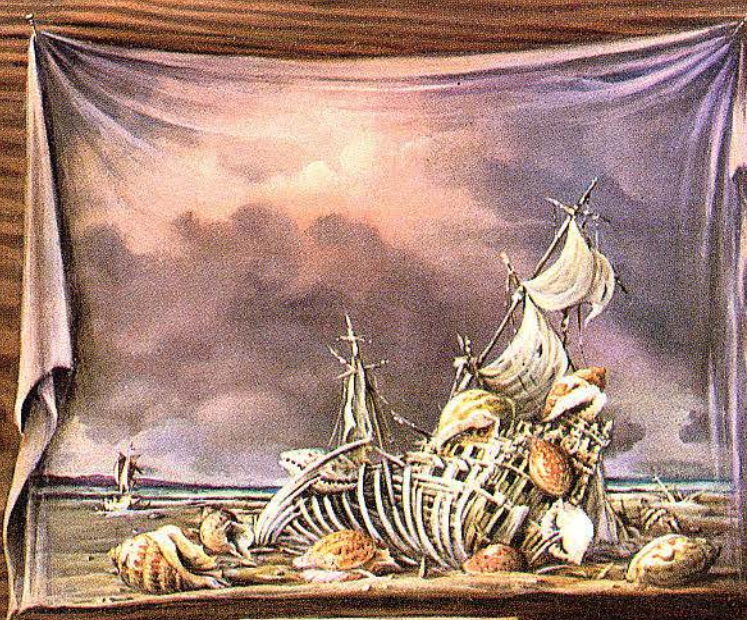
The first problem – which I've already alluded to – concerns the **meaning of the term "collective security"**.

Individual security is easily understood: an individual provides himself with assurances against another whose intentions or whims may differ from his own and thus lead to conflict.

However, before entering into a discussion of collective security, and aside from the fundamental problem of a reference-frame – a problem I dealt with



*Les coquillages
arrivés d'Espagne*



The sea shells.



earlier on – we need to look at a basic misconception: does the concept of collective security mean maintaining the “status quo”, or does it mean pursuing changes in the “status quo” through various methods which do not include either the use of force or the threat of force?

Within the range of possible options, I would definitely reject a rapid transformation from the “status quo” to a world order that is supposedly “more just”, both on account of the objective difficulty of putting such an utopistic model into practice, and because the evolutionary period needed to pass from one model to the other would be rushed and, as a result, extremely insecure.

Given the current international picture, or rather, given the context of the “status quo”, society’s need for security is the only force moving towards the goal of universal security.

In fact, NATO’s security and the security of the Warsaw Pact nations can not possibly coincide: each has to maintain its security with respect to the other, and when one of the two manages to increase its security, then the insecurity of the other simply becomes that much greater.

An instrument of collective security could crystallize the situation, but this hypothesis is an impractical one, both from the historical and political points of view.

The fact is that **classic political doctrine gives** the state, or group of states, the right to evaluate independently their own **vital interests** and, thus, the **goals they set** for themselves – assuming that no ethical limitations have been imposed by a higher, international body. Inevi-

tably, this **doctrine leads to confrontations between opposing nations** and sets the scene for progressively degenerating conflicts which send relations spiraling through a series of actions and reactions matched by a gradual increase in crises, tensions, conflict situations, and actual conflicts.

Therefore, creating a system of collective security capable of reducing levels of insecurity involves finding a common meeting ground on the **ethical plane**, a task which has already proven quite difficult for both NATO and the Warsaw Pact nations.

If the pursuit of universal peace presents difficulties, then the dual idea of **“growth through peace”**, though certainly a worthwhile goal, spontaneously provokes a question or two: whose growth and at whose expense?

Growth is synonymous with progress, but it also entails contractual obligations, areas of interest, and therefore friction, conflict, etc..

With that, let us move on to the level of **“extra-national security”**.

The East-West confrontation is still the determining factor for global stability and peace. However, bipolarism in the strict sense seems to be having functional difficulties, both in terms of the leadership exercised within the blocs and their ability to gather support in the outlying areas. There are many reasons for these difficulties: mistrust, suspicion of imperialism and neo-colonialism, changes in the relationships of power. But above all – according to a number of scholars – the two socio-economic models proposed by the super powers have slowly worn themselves out, and as a result their respective ideologies have suffered a gradual erosion. Further, the superpowers have lost credibility both at home and abroad for having compromised their identities by grabbing once too often for the immediate, seductive gains of pragmatism and “realpolitik”.

It should also be pointed out that **deterrence**, founded on the so-called balance of terror, has

definitely turned out to be a strategy of non-action. It has infected political thought with a type of sclerosis, leaving it incapable of coming up with new ideas or finding a way out of this very dilemma.

There is no avoiding the paradoxical situation in which deterrence – based essentially on



nuclear arms – has so far kept the differences between the two superpowers from degenerating into a military conflict. In other words, it has kept the peace.

We can logically confirm that until such a time as different situations and conditions are created, **peace will be a political goal of great moral relevance in**

which the military element continues to play a part.

As proof of this, we see the need to maintain certain **balances**: balances of power which – given the structure of international relations at the present moment – represent an element of security. Unfortunately, they exist in a continual



stage of development. Circumstances force us to accept this situation, but the important thing is that the balances be maintained at the lowest possible.

Here is the key to the fundamental negotiating policy used throughout the world; it is also the crucial element in the broad-based appeals demanding an end to the madness of the arms race.

We should not be misled by an elementary consideration of the long period of peace brought about, paradoxically enough, by the nuclear balance.

Nor should we be led to draw obvious conclusions from the fact that this peace has been maintained only in the areas directly threatened by nuclear destruction. In the rest of the world – the so-called “marginal areas” – there have been roughly one hundred wars since 1945, and others are still being fought.

Even if we can accept the claim that within a hypothetical framework of international relations, one which the systems analysts would call a “perfect bipolarity”, armed conflict would probably cease to exist, the way things stand right now – with an “imperfect bipolarity” and the potential for a “multipolarity” – **the dangers are very real, and cannot be ignored.**

Apart from the fears connected with an eventual **nuclear proliferation**, in other words, the dangerous increase in the number of nations possessing nuclear weapons, the mere idea of nuclear **use** and the possibility of a **catastrophic error**, though still nothing more than a possibil-



The Ark on Mount Ararat.



ity, have shaken the conscience of a world population which vigorously rejects the thought of a disastrous war having neither losers nor winners.

Moral considerations force us to abandon a path – that of the nuclear arms race – which seems unable to offer the slightest reassurance for the future.

Hopefully, these considerations will eventually have a decisive, practical influence on the choices of those who hold, and rightly so, that **it is time we found a different set of answers to the problems of security.**

It is high time we moved beyond the misguided logic of "Assured Mutual Destruction".

How? Here is the one truly great problem of our future.

In this context, the **resumption of talks between the superpowers** is a cause for satisfaction and hope.

The above scenario is the basis for current international relations. Whether we like it or not, we have to accept it.

It goes without saying that if humanity – and here I quote from the hope-filled words of Odette Thibault – "were able to rid itself of aggression, xenophobia, racism, exasperated nationalism, and the thirst for power, if it were able to replace the balance of affection", then collective and universal security would become a working reality.

At present, **the conquest of peace appears to be an arduous task, packed with difficulties and fraught with all sorts of obstacles.**

Despite its many shadows, however, the picture also offers much light.

To paraphrase Mark Twain's comment on the music of Wagner, one might say, "it isn't as bad as it sounds".

Certainly it is too early to make valid arguments for a collective security if we have yet to understand where the bases for its construction will come from, but we can nevertheless note that **a certain progress has been made in the reduction of insecurity.**

A movement in this direction, in fact, can already be seen; signs of its existence are numerous and highly reliable.

The controversy surrounding the uncontrolled escalation of the arms race has heated up for a number of reasons. Among these, we should not underestimate the moral considerations thrust onto the scene by the pressure of public opinion.

In the second place, a good deal of attention is being given to a revised strategic concept which would move the military confrontation from the offensive area – where it increases the opponent's fear – to the realm of defence: from "Mutual Assured Destruction" to "Mutual Assured Survival" (which is itself an intermediate phase meant to proceed a progressive dismantling of nuclear capabilities).

President Reagan's "Strategic Defence Initiative" in also part of this picture.

In fact, its proponents argue that the **study of the "space shield"** represents an attempt to move the conflict away from the earth's surface by relocating it out in space with the creation of a system guaranteeing an almost total impenetrability to the protected area. In this way, all potential enemy attacks are doomed to failure and any concept of nuclear superiority becomes dubious at best.

Officially, its supporters view the "Strategic Defence Initiative" as an acceptable prelude to a gradual disarmament.

Obviously, the Soviets see the matter in a very different light, considering Washington's move to be another attempt at destabilizing strategic relations between the superpowers.

The subject is vitally important and calls for more than a simple acknowledgement of opposing declarations. It directly

involves us as Europeans and, therefore, deserves a thorough examination.

I think the occasion will present itself in the near future.

Finally, my **third point:** it is encouraging to see the recognition being given to the **vital role of negotiations.** Its dimensions preclude the possibility of a mere political manoeuvre by this or that faction.

The opinion is widespread – and it could hardly be otherwise considering the enormous destructive power of the current military arsenals – that, as President Reagan stated in his address before the United Nations, given on September 24th, 1984, "there is no reasonable alternative to negotiations between the nations who possess the means to destroy civilization".

HOW THE SOVIETS VIEW SECURITY

I have always believed that semantics offers a very interesting approach to understanding the psychologies of different peoples. The Russian equivalent of the English term "security" is "biez opasnost", which literally means – is the reader ready? – "without danger", in other words, absence of danger.

One finds oneself asking "absence of danger from whom?". And still further, "danger from what source?".

Without indulging in wild "extrapolations", one can, at the very least, note that the Russian linguistic construction contains a concrete reference to an external situation (the danger) which must be eliminated in order to create the proper conditions for security.

The objective element is the danger, a concrete entity, and not just the sensation of danger.

On the other hand, the Latin linguistic construction for security – a word formed by the fusion of "sed", the equivalent of "without", with "cura", the equivalent of "care" – refers to a sensation (care, worry) which is an internal phenomenon; the removal of the sensation brings

on a state of security, something which takes place on the psychological plane before it is confirmed on the operational level.

The objective element is the sensation of danger, which can be overcome, and not the danger itself, which must be met with action.

I will merely underline what I have already said: danger is eliminated by precautions, measures, and actions; the sensation of danger is eliminated by logic, reason, and, on occasion, the act of repeating to oneself that the danger does not actually exist.

The distinction is a subtle one, and may even seem a bit extravagant, but the fact remains that this difference in interpreta-

tion has led the West to emphasize its requests for "peaceful cohabitation" as a primary condition for the establishment of an improved strategic balance, which is itself a primary condition for forcing the opposing side to accept "peaceful cohabitation".

Incidentally, it should be remembered that "peaceful cohabitation" is something different – very different – from "peaceful coexistence". The latter, in fact, refers to the crystallization of an existing situation and does nothing to reduce the dynamism of the other side as it pursues its political goals through means which are not always political (purely political – to be perfectly clear – of the classic type) with the result that the most elaborate



forms of indirect strategy are put to use.

Beyond the theoretical analysis, there is present in the Russian tradition (and to a much greater degree than in the Soviet tradition) a painful memory of real-life experience which lends concrete substance to the concept of danger, linking it, as has always been the case, to the idea of encirclement.

Here is another element which should not be underestimated in our attempt to understand the reasons behind certain attitudes.

To reiterate, the West's idea of "collective security" is not the same as the East's.

At best, the emphasis on threats gives us two "security systems" in confrontation, such that the collective concept begins to vanish, limited as it is to a "bilateralism" which would be better put to use as the basis for a system of "reciprocal security".

If this is the effect, then it would seem more logical to go back and look for the cause. This is found in the "balance of power" concept – the balance between the two superpowers and the opposing formations that act as their vanguards – which has kept the peace for the last 40 years.

Seeing that the analysts all agree on the crucial importance of maintaining an acceptable balance in terms of both western and eastern security, **let us shift our attention from "security" to "balance"**. Despite the change in perspective, the fundamental misunderstandings remain.

To begin with, in fact, both sides need to agree upon the



The tired tulip.



meaning of the word "balance". And things are certainly not helped along by the periodic moves towards integration which introduce the **concepts of "symmetry" and "asymmetry"** into the discussion of the geo-strategic areas where balance is being pursued.

One forgets, or rather, one tends to forget, that balance has a value of its own, in as much as it weighs not only **potentialities** but also – and this is a very significant development – **vulnerabilities**, both of which must be seen as belonging to the same species and category.

Finally, to complicate matters even further, there is the disagreement over the very **nature of balance**. Does balance represent the basis of a relationship at any given point in time, in other words, something immune to change, or is it a dynamic process governed by various parameters and, thus, subject to change?

Without wishing to stir up a controversy, one can not help but notice that the Soviets – followers of an ideology which still maintains a certain forward momentum – tend to think of balance as only a temporary step in a dynamic process.

Given such a mind-set, it is no wonder that the dialogue occasionally stalls. No amount of good will can keep certain prejudices and preconceptions from coming into play.

The fact is that a line of reasoning must be sketched out for an opponent whose subtle dialectical game moves forward by theses and antitheses in an attempt to find, for example, a logical justification for unilateral actions taken against other systems in a clearly offensive mode, or to demonstrate that his

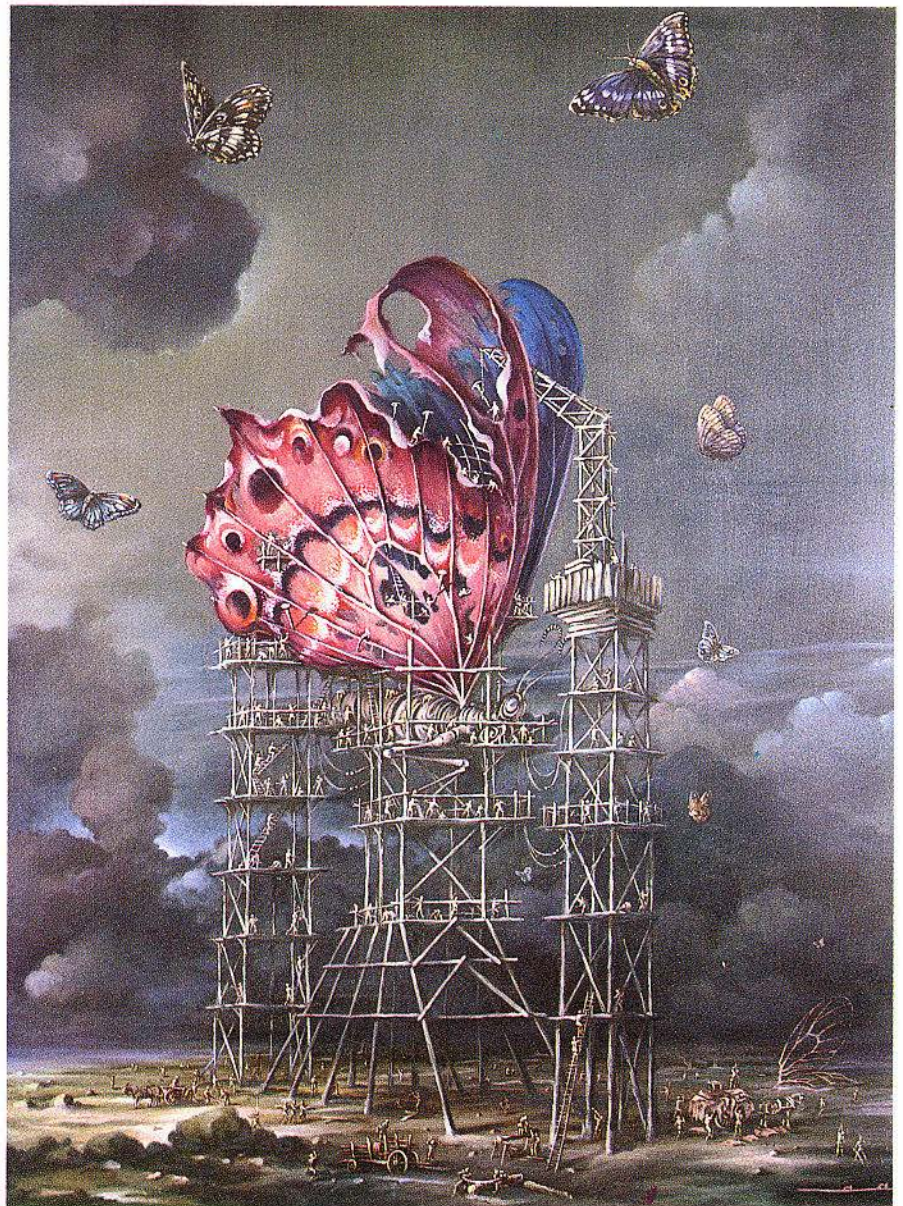
systematically acquired positions of strength are not really positions of strength, or, finally, to claim that what the West perceives as an imbalance is no such thing at all. The game goes on in this way until one is forced to conclude that the dialectical plane represents the greatest source of difficulties for East-West relations. In other words, there is a difference – a fundamental difference – between the two reasoning processes, and this difference cannot be ignored.

On the subject of different reasoning processes, it is worth looking at an episode reported in the "Times" of August 27th,

1984 which described a plan – proposed by the Pentagon and then rejected by Bonn – to protect the eastern border of the German Federal Republic with a system of tubes containing a liquid explosive. The proposal was meant to create an extreme defence against a potential Warsaw Pact invasion force.

"Pravda" stated that the idea of using explosive tubes was linked to "the shadowy emergence of a nostalgic, West Ger-

Building the lunar butterfly.



man desire for revenge, and the recent speeches given by President Reagan and George Schultz in which they questioned the division of Europe agreed upon in 1945 at Yalta”.

I do not believe it is necessary to waste time providing subtle explanations of what must be obvious even to the non-expert: that the construction of an explosive line along one's own borders as a defence against unwelcome incursions, even if they are hypothetical incursions, is an act meant to maintain the current division rather than abolish it.

But this is the logic – or rather, the type of logic – with which we must come to terms.

And in doing so, no initiative should be rejected if its ultimate objective is the establishment of relations conducive to peace.

In this sense, despite the doubt and confusion heard from many quarters, the “Conference on European Security” was a very significant occasion.

Its success has less to do with the results than the **dialogue which was maintained** on subjects vital to the future of humanity.

We yearn for security, but – as I have already pointed out – this goal still depends, and sadly so, on a balance of power, though there is no need – and here I will repeat myself so as to avoid any misunderstanding – to establish this balance on anything but the very lowest level.

We must remember that the opposing side enjoys a superiority in every area of conventional weaponry. I say this not merely to emphasize the potential threat, but in order to clarify the point from which our thinking must proceed.

The West would have great difficulty overcoming this disparity in conventional weaponry.

Other courses of action remain, and yet they are full of obstacles which render the task all the more difficult, especially if the opposing side can shrewdly manage to mobilize public opinion with references to fundamentally attractive principles and accusations whose veracity is question-

able at best. These accusations are most damaging because they can leave the less informed sectors of the public uncertain, doubtful and perplexed.

One of the many options is Western aggression, and yet we rightly hold this tactic to be undeserving of our world's political system, based as it is on authentically democratic principles.

Given these principles, no one can dispute our willingness to defend our world against outside aggression, and thus an ideologically-based system that classifies conflicts a priori on the basis of moral judgements relative to their participants (the theories of the “just war” and the “unjust war”) seems rather irresponsible.

The key to determining such values has nothing to do with the opposing factions, but rests on a higher plane: with a condemnation of war itself as a means of solving international conflicts. This is the principle which our Constitution solemnly proclaims.

The truth is that a broad-based discussion of international security calls for a mixture of ideological considerations and pragmatic calculations; these two elements interconnect and complement each other, introducing factors which are not always easily understood.

It is necessary, however, that every effort be made both to understand and interpret.

In as much as they are influenced by factors of economics and security, the international problems of our time would appear to be extremely complex. There are any number of dilemmas calling for resolution; but there is no reason for despair.

Given such conditions, the subject of collective security becomes quite complex, and its conclusions run the risk of being misleading.

Those who wish to continue living a free and independent life, who yearn for a peace they can live with, must, when all is said and done, put their trust in the forces of reason, lucidity, intellectual honesty and, unfortu-



nately, the unavoidable need for a constant vigilance backed not only by weapons of military defence, but also by the “unarmed” measures which must be included in any strategy of penetration formulated for a world where the conquest of public opinion represents an essential element of success.

To borrow an apt phrase from Glucksmann, I would say that a combination of communication and deterrence creates the ideal conditions for détente.

HOW NATO VIEWS SECURITY

NATO's security is a function of the threat posed by the **enemy camp**, with all the consequences such a philosophy entails.

The Alliance was born to compensate for a lack of security and the continuing need for that security has kept it alive through all these years.

As for the current relevance of its role, one need simply look at the preamble to the pact written in 1949: “to unite their efforts for collective defence and for preservation of peace and security”.

The institutional aims of the Alliance require that the present fragmentation of Europe be replaced by an ever increasing level of **political-military integration amongst the member nations**.

This is such an elementary concept that it should not require further explanation. Just as there should be no need to examine the economic, political and social problems which NATO has faced ever since its inception.

Political accord, a unanimous, integrated military strategy, and the support of public



opinion are all elements essential to security. Therefore, they must also be among the goals of a strategy for peace which projects all potential conflict as taking place at the lowest possible level of cost and danger.

Another concern of the Alliance is the internal dialogue between the United States and Europe. In this area, both sides must quickly agree on a way of lessening the gap between their respective public opinions: in the United States the emphasis is on potential military might and, more generally, deterrence; European public opinion favours negotiations and rejects the spectre of nuclear destruction.

The "peace goal" may be attainable, but it will require a unified commitment and a global strategy which, though its final goal is **disarmament**, cannot afford pointless, indeed, dangerous demonstrations of a naive defeatism – such as conscientious objection or unilateral disarmament – but must follow a **harmonious progression of partial strategies**.

In substance, present day strategic thought, as well as that of the future, concentrates on finding ways of avoiding conflicts. It also tends to establish the conditions for an acceptable stability, and it emphasizes vulnerability over potentiality.

This historic change in perspective could be – or so it would seem – a first step towards peace, though it is not an easy concept to understand nor, from the moral point of view, to accept.

All this could be nothing more than a by-product of the nuclear arms whose advent has shaken the historic conception that envisioned humanity's development as a process punctuated

by a steady stream of wars. Should the devastating power of these nuclear weapons ever be put to use, the very word "development" would lose all meaning.

It is time to champion wholeheartedly the **human and civilizing force of Western thought**, rejecting as so much mystification and hypocrisy the influence of any ideology foreign to our culture. Furthermore, it is time to create a solid and lasting framework for the role reversal which to me seems a part of today's reality.

The ideological threat has effectively lost a part of its kinetic energy while, on the other hand, the ideals of liberty and democracy endorsed by the Western countries appear to have gained in strength and obtained a certain heroic vigour reaching beyond the strictly Western area of influence. The examples lie right before our eyes and should inspire all of us to make the **courageous choices** and continue on in our commitment to a solidarity based on exemplary participation and not just inconsistent whimsy.

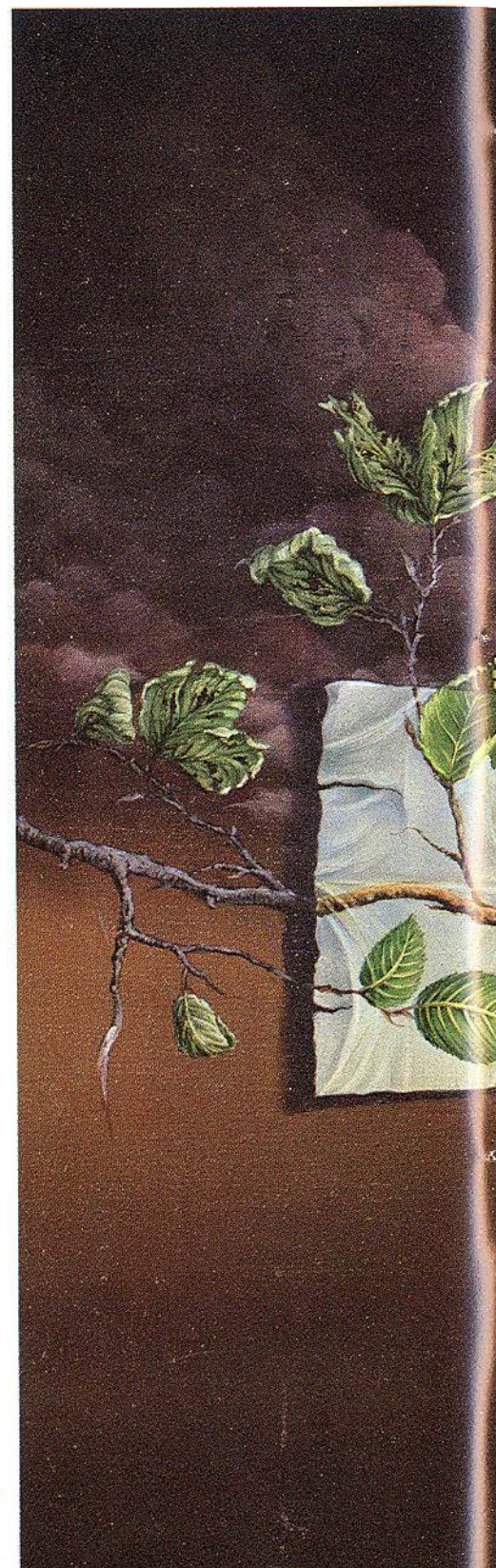
This direction seems well adopted to the state of watchfulness which must be maintained lest the current balances of military strength be disrupted.

Though military confrontations sometimes carry the risk of potentially uncontrollable "spiralizations", the other method for guaranteeing peace – based simply on "détente" – has proven neither practical nor reliable enough to make it a reassuring choice.

But the future of East-West relations, and therefore of world peace, is still in large part tied to the resumption of a **dialogue** which – though it may prove difficult given the objective complexity of the problems being discussed and the confrontation between two diametrically opposed mentalities – nevertheless includes a strong point of common interest: the assured survival of the two populations along with their current ideological-political structures. This goal will be pursued even at the

cost of making reciprocal concessions which can not easily be quantified.

Such reflections could be a cause for well-founded hope, assuming that all the actors in the international arena – and here I am referring to the European countries in particular –



resolutely accept their respective responsibilities and act with one accord. In this way, should the negotiations between the two super powers yield the desired, positive results, the Europeans will be active participants and not just passive recipients of a situation determined without

their contribution or, worse yet, against their interests. But there is another element of hope which we would do well to keep in mind: a great many institutions and a great many private citizens are attempting to resolve – both prior to and beyond the official contacts – the most urgent of



the complex and dramatic dilemmas of our time. As a result, dialogue and communication have already been established at a truly exceptional level and degree, overcoming barriers and boundary lines which once seemed impregnable.

On both sides people are convinced that man cannot live on the edge of a precipice, and the force of public opinion – both in the West, where the public is well informed and fully involved, and in the East, where it appears to be undergoing a gradual reawakening – is destined to push rulers and political leaders towards the goal of peaceful coexistence.

CONCLUSIONS: TOWARDS A STRATEGY OF PEACE

The conclusions to be drawn are readily apparent in the points I have discussed.

"Deterrence" is a concrete element. It exists and is currently a factor in international relations. Until an acceptable substitute comes along, it is better not to question its effectiveness: this, no matter how bizarre one finds the logic – as I have already mentioned – of "Mutual Assured Destruction".

Ideally, a revision of that logic would lead directly to "Mutual Assured Survival".

"Détente" has a great many possibilities, but as of late it has failed to provide consistent, convincing proof of its validity. For this situation to change, the doctrine must base itself



Spring desire.



more on facts and less on declarations of principle.

Even considered in materialistic terms, as a matter of mutual advantage, "détente" has a number of applications and could make a sizeable contribution to the establishment of a new approach for solving the great political problems of the moment.

These problems center around the East-West relationship – it is true – but the influence of the North-South confrontation is on the rise. Today, all nations of world importance, no matter how great or small, must measure themselves in terms of this confrontation, and in the future it will count for even more.

In the absence of valid alternatives, détente and deterrence will guarantee a "state of non-war", at least in the Northern Hemisphere. This is not the ideal situation, but it is already a big step forward.

Once peace is understood as the absence of waged war, then it becomes a feasible, practical alternative. This has been amply demonstrated in the 40 years since the end of World War II and is possible thanks to a subtle game in which, unfortunately, the instruments of war still play a part. This is a game played at the very limits of the balance of world power.

We must once again emphasize that in an era dominated by the threat of nuclear holocaust, war can no longer be considered an acceptable means of solving political problems.

Given the lessons of recent history, plus the immeasurable destructive power of current nuclear arsenals, war – which authoritative sources have justly defined as "mankind's curse" –



would represent an utter triumph of the irrational.

In protecting our interests and guaranteeing our security, **NATO still represents the keystone of a system which appears to have no substitute.**

A change in the data describing the current balance of military force would give rise to a number of unsettling possibilities.

Despite the rigid, seemingly paralyzed nature of this conflict, we can take comfort in noting that – beyond the quantitative or qualitative aspects of the two opponents' potential strengths – the ideological factor is slowly losing its energy and drive, and there is a good chance that bipolarity may soon begin to show its limits, too.

Despite all appearances, entering into the game might not be an impossible task.

Perhaps if we proceed in a relaxed way, we can be persuaded to characterize the present moment as a **"period of transition"** – from an old to a new system of international relations – a period during which the rise of new protagonists (or rather, of a group of new protagonists) ready to join the principals and play a more active role in the pursuit and maintenance of peace should not be that difficult. To make it a reality, a **global objective** should be determined which is valid for all nations; the need for such an objective exists, as is evidenced by the extremely fluid atmosphere of world public opinion, along with the current cultural ferment and the confused, pulsating mass of social aspirations.

I have said that this is a period of transition, and as such it is full of risk, both on account of the unexpected directions which the world of ideas may take and because of the ever-present possibility that events will escape our control and current situations will explode.

We must be able to manage this phase. That statement, quite



an easy thing to say, definitely has a certain glamorous appeal, but I am well aware of the unending series of obstacles which must be overcome if we are to transform it into reality.

On more than one occasion, I have pointed out that it is high time we developed a **body of global strategic thought** – something which is missing today, especially in the Western countries – designed to give an answer, or a series of answers, to the major problems of the moment:

- East-West relations;
- North-South relations;
- policies for the use of energy and prime resources;
- economic disorder.

We must confront these problems, and we will continue to confront them in the near future. Bringing them closer to a solution means working for peace and the progress of mankind.

Their complexity and their tangled sets of interrelations should not dishearten us. Europe's duty is clear. She must dedicate herself to solving these problems, even if this requires a long-term commitment. She must work on an equal footing with the superpowers, participating in a conceptual context to which she contributes by reassessing both the Atlantic ideals and the priceless body of values and culture inherited from the old continent, which could once again fill its classic rôle, acting as a bearer of ideas and a guide of universal thought.

Umberto Cappuzzo

Ethical perception is a fundamental characteristic of man. It manifests itself in his capacity to participate in the events of life and is bound up with the very essence of the individual. Without the capacity to distinguish between good and evil, between right and wrong, man could not live in freedom.

Ethical perception is an innate faculty linked to the coexistence, in one and the same individual, of a real world, which forces him to come to terms with reality, and an ideal world; it raises him above material concerns, at the same time, however, subjecting him to the authority of his own conscience.

Man thus exists as a complex and mysterious being, a perfect microcosm that, although of enormous proportions at its own level, appears quite tiny when compared to the Universe as a whole.

The history of man is characterized by his constant endeavour to reach unattainable perfection. To this end, he has gradually extended the boundaries of his knowledge and his capacity to implement his ideas, striving to pass on to the following generations the transcendental values of society and of the individuals of which it is composed. He has tamed nature and, with the help of science, has made great efforts to understand the complex phenomena affecting his life. One of these phenomena is violence, considered as a means, a tool, a form of social behaviour. Violence is one of the factors permanently influencing human evolution. Nevertheless, we are now at a point in our history in which violence has reached such an absurdly high level as to threaten our civilization and even life on this planet.

Another of these phenomena is the gregarious aspect of human nature, which is in permanent contrast with man's violent nature. Man's instinct for preservation leads him to seek the company of others, so as to form a tightly-knit social group and ensure that social values can be developed.

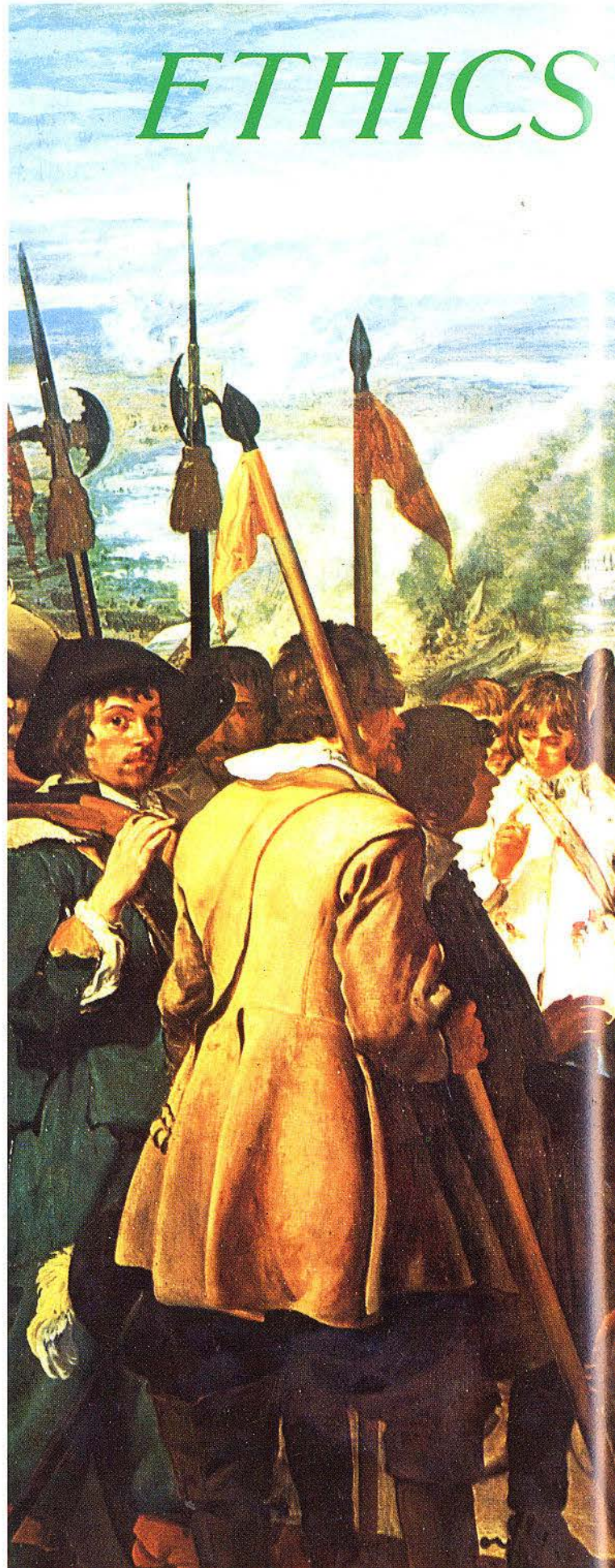
The incompatibility often found between these values, whether taken separately or in their interaction with rules and established practice, is what produces the violence which occurs in human relations and justifies the creation of a social group specialized in the use of force. "Militariness" is thus felt to be a necessary part of all forms of organized human society.

Right.

"The surrender of Breda" by Velázquez.

The city was conquered in 1625 during the uprising of the Netherlands. The painting illustrates the embrace between the victor, the Genoese general Ambrogio Spinola and the defeated governor of Breda, Giustino di Nassau, depicted as about to kneel before the victorious general. In a gesture of great humanity, the latter prevents him from completing this humiliating act.

ETHICS



AND MILITARINESS



THE MILITARY PROFESSION

The soldier is trained by and for his country to be a specialist in the use of force on behalf of his particular Service. His training consists in increasing his effectiveness in using the available weapons and equipment in order to inflict the greatest possible losses on the enemy. Both from the personal and the Service points of view, the serviceman can consider his task as accomplished if he can achieve this aim. However, this aim entails the unavoidable use of organized force, considered by many as the essence of the military profession.

The control of violence is a vital function of any society and the soldier, i.e. the professional of the armed forces, thus forms a social group that is necessary to the national society. This truth is of use to those bearing arms for their country in that it helps them to overcome an apparent contradiction which may otherwise lead them to have doubts about their chosen career. This is because, in actual fact, man rejects violence. It is, furthermore, condemned by ethics in all its forms and also our own conscience tends to consider it in a negative light.

If this is true, as it appears to be, why has the military profession always withstood the above attacks? Why have there only been 200 years of real peace over the last three thousand years? One major reason has been the use man has made of violence as a factor of change and historical development. The various schools of philosophy that have attempted to provide man with a moral code of behaviour have vainly sought to explain the reasons underlying violence. However, in spite of the different methods followed and the praiseworthy efforts made, these philosophical efforts have not obtained the desired effect. It has been vainly attempted to justify violence and to limit its scope by the application of morality, politics and law.

Ethics has attempted to come to terms with violence by the use of different religious and ideological structures to water it down and somehow make it more acceptable.

Politics tends to rationalize the way violence manifests itself by introducing the logic of the balance of forces and of mutual effort to achieve a situation characterized by good will and tolerance.

Lastly, in order to admit the use of violence, the law requires the underlying causes to be essentially just and refers to cases of defence against aggression, although the difficulties involved in defining aggression and the variety of possible forms of conflict have considerably reduced the effectiveness of this rule.

THE ESSENCE OF WAR

As a manifestation of organized violence, war has been one of the main means used by man in his relations with other men. Ever since the beginning of human events, this form of social pathology has been handed down through the centuries, to quote Hegel's apt phrase, like a "judge of history". It is precisely its importance over the centuries that has led to the consideration that it does not depend either on the collective will of the masses, nor on that of the dominant minority. As an extreme hypothesis, war can be considered as a violent conflict between organized groups arising out of a clash between opposing interests. However, the contingent cause must always be sought in man's independent will. In fact, the "law of cause and effect" found in natural phenomena does not seem to be operative in this case. War is impervious to the humanistic ideals used to try and steer human behaviour within the narrow confines set by "duty" and "being", and continually reappears as an inescapable recurrent historical reality. To refuse to acknowledge the de-

structive effects of war would amount to subscribing to one of those totalitarian follies in which it is considered to be a moral condition peculiar to human society.

However, to refuse to accept war in any form would be equally idle and would merely shift the emphasis on to an abstract, ideal world based on Utopias incompatible with man's very nature.

And so the concept (or the appeal?) of the "just war" again raises its head. The origins of this concept are as old as Christianity itself, as symbolized by St Augustine's exhortation to Count Boniface to use the sword received from his Emperor against all those disturbing law and order in Africa.

When on the horns of the dilemma of whether to engage in a just or an unjust war, it would be absurd to expect to be able to retrace the entire troubled path trodden by Christian thought. Ideally then, we can conveniently link the exhortation of the Bishop of Ippona, in "De Civitate Dei", who refers to war as a necessary evil, something inevitable, to certain statements by Pius XII in some of his messages and speeches. In this 1948 Christmas message the Pope said that certain people hope to find salvation and the solution to all their problems in the formula of peace at any price. Unwittingly, they actually end up by jeopardizing the cause of peace, because they encourage the arrogant certitude of would-be aggressors. He goes on to say "true Christian desire for peace is strength and not weakness or passive resignation".

Jean-Paul II himself, in his unceasing oecumenical efforts

Right.

"Officer of the Chasseurs on horseback during the last charge" by Théodore Géricault.

Like a modern snapshot, this romantic painting captures the release of vital energy from the horseman and his mount.





to abolish the very idea of "just war", peculiar to mediaeval thought and revived in the modern age, and to induce an increasing number of peoples and nations to adopt a "peace culture", stated in an address to the UN in 1982 that "under the present conditions, deterrence based on equilibrium – which is certainly not to be considered as an end in itself, but as one stage in the process of gradual disarmament – can still be considered as morally acceptable".

But how long is this stage to last? It is not possible to suggest any reliable figure: years, decades, or perhaps even centuries?

The very definition of "war" as an immanent reality, however deplorable, has given rise to extensive and persistent controversies. Such renowned experts as Basil Liddell Hart and Raymond Aron have defined it as the art of using the Armed Forces to achieve set political objectives. The French general Beaufre goes even further, considering war to be the art of combining force with political ends.

Such approaches to the problem, characterized by a valid conception of war as the collective manifestation of the use of force, can all be related back to the military thought of Karl von Clausewitz, whose work has steadily been growing in importance and acceptance for a long time now. Untainted by dogmatism, von Clausewitz' principles were doubtlessly a clear expression of his age.

His arguments concerning the moral implications of war and his conceptions of total and limited war have been, in many respects, highly illuminating for

any statesman faced with the problem of choosing the best strategic course in a hectic world torn between different ideological poles. Nevertheless, also the ideas that Clausewitz produced and disseminated with such Teutonic methodicalness had a number of precedents.

Without embarking upon a long and possibly unrewarding survey of past history, let us simply examine the case of Flavio Renato Vegezio (late 14th century 15th cent). A statement in the early part of volume I of his "De re militari" ("...the Romans conquered the whole world exclusively ... because of their disciplined organization, their use of the Army") reaffirms the link between the policy of Rome and its military activity. Nor did the role played by the Army (i.e. the present-day Armed Forces) in the general framework of the system of government weaken the unitary spirit on which the Roman state was founded. In this state every aspect of the institutional context was a cogent force of the "lex", the rigorous and functional civilian ideals and the basic philosophy of military art, imbued as it was with the concepts of order, training and discipline.

Two further considerations must be made in this brief descriptive note on the phenomenon of war, both of which can also be found in Clausewitz' thought, although the nuclear situation has now made absolute and total war practically unfeasible as an instrument for solving international disputes.

The first consideration is that of war as an historical event. No conflict to date has produced absolute results. The defeated nations have often suffered only a temporary setback, and have found a satisfactory solution at the political level. This assertion is worth dwelling on. If it is true, as numerous actual historical cases seem to indicate, another piece can be said to have been added to the jigsaw puzzle comprising the several elements condemning war as a decisive factor in international disputes. But do the non-defini-

tive value of war and the opportunity that the defeated countries have of making up for their defeat still exist today? The apocalyptic, although only hypothetical, vision of the possible consequences of nuclear war raises a number of doubts in this connection.

The second consideration, also perceived by Clausewitz and confirmed by military events and studies in every historical period and part of the world, refers to the often decisive rôle sometimes played by chance in the uncertain world of war. Indeed, more than in any other human activity, a history of battles would clearly indicate that war is linked to chance. Together with luck, which is only one aspect of the same thing, chance often plays a preponderant role in human vicissitudes and, despite all the careful planning, leads the phenomenon of war into the field of uncertainty. The chance factor exerts its effect throughout the duration of any conflict. The risk thus arises of an uncontrolled use of violence, so that war, which is a phenomenon that can elude all control in its abstract form, can find sufficient rationality and possible ethical justification only in the expression of political means and objectives.

LIMITS TO THE VIOLENCE OF WAR

Violence may find rational limits in the reasons that ought to, or actually do, justify its use and the extent to which it is used.

The first of these reasons consists essentially of legitimate self-defence. However, the concept of self-defence covers a wide range of different situations and necessitates a clear definition of what constitutes aggression. The most readily perceivable conception is the one in which the aggressor is identified as the one first using force. This is the definition given in International Law.

However, some thought must be given to the possible ways aggression can manifest itself.

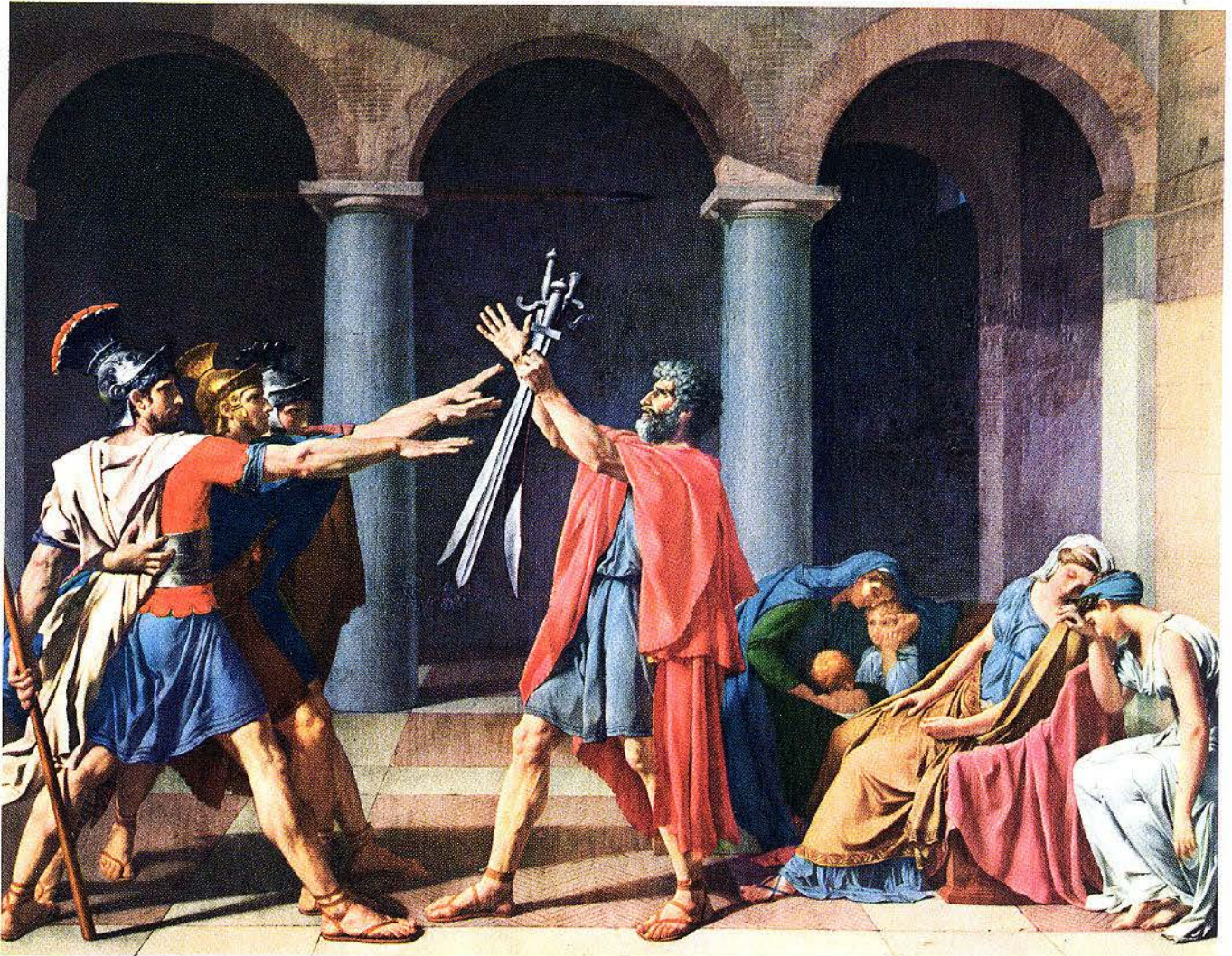
Left.

"St Martin shares his cloak with a beggar" by El Greco. In this symbolic image, the figure of the horseman represents the synthesis of the moral principles informing the soldier's life. As well as valour and obedience, he must also cultivate civic qualities to the highest degree.

In modern times, these manifestations often do not involve actual physical aggression, but are expressed in subtle forms of psychological, economic and cultural pressure. Although much less conspicuous and destructive

tion that the reasons sought to contain and perhaps "humanize" war have a kind of intrinsic ambiguity. No definite elements can be found, either juridical or moral, to sanction violence, despite the moral and juridical rules intro-

the subjection of the enemy to suffering for pleasure or vengeance, mutilation or the causing of wounds outside actual fighting, or to torture in order to obtain confessions. The use of poisons is prohibited, as well as any



than actual armed conflict, these forms of aggression can have equally devastating effects in their specific fields.

The other limit mentioned above, i.e. the use of violence on a reduced scale, tailored to the objective to be attained, is related to the perpetual endeavour to "humanize" war, so often unsuccessful in the history of armed conflict and today clashing harshly with the almost unlimited power of modern offensive weapons. The attempt to identify these limits leads to the conviction

that the reasons sought to contain and perhaps "humanize" war have a kind of intrinsic ambiguity. No definite elements can be found, either juridical or moral, to sanction violence, despite the moral and juridical rules introduced over the centuries in order, on the one hand, to reduce the number of those who have to suffer the consequences of the violence and, on the other, to reduce the suffering of those taking part in the war operations.

One significant example, chosen from among the many available, of the rules "humanizing" war is the "Instructions for the conduct of United States armies in the field" issued by President Lincoln in 1863. These instructions state that "military necessity cannot justify cruelty,

Above.

"The Oath of the Horatii" by Jacques Louis David.

This work, an example of noble and austere celebratory art, shows the Horatii's moral strength, expressed by their powerful posture.

Right.

"Charles V at the battle of Mühlberg" by Tiziano.

Against the background of the battlefield and a livid sky, the victorious Emperor seems to have sacrificed all sense of humanity to the myth of royal power.



arbitrary act of devastation. The deception allowed in the conduct of operations must not degenerate into acts of perfidiousness. As a general rule, the state of military necessity does not justify any act of cruelty that would also needlessly make the return to peace more difficult".

These noble principles were suited to the period and to a war in which, despite its peculiarities, it was possible to respect them up to a certain point.

With all the best intentions in the world, could they be applied to a hypothetical conflict of the '80s? The answer can only be no, which confirms the flimsiness of all theories humanizing war and defending everything that can be used to increase the credibility of the Armed Forces as an instrument of deterrence, dissuasion and détente, a champion of peace, designed to preserve and foster the essential values of civilization.

MILITARY ETHICS

It was mentioned earlier in this article that the soldier lives and operates inside society as a specialist in the use of force.

The military profession cannot bypass the constraint obliging it to prepare itself to use force: the very nature of armed conflict makes this impossible.

In this sense the use of force in the interests of peace and not for the purposes of aggression, is legitimate and justified by the need to safeguard the common interest.

Even the Vatican Council II (*Gaudium et spes* 79) acknowledged that "all those dedicated to serving their Country in the ranks of the Army can be considered as ministers of the security and freedom of their peoples and, when they carry out such duties correctly, truly contribute to the stability of peace".

The result is a kind of "exclusiveness" of the soldier in return for which he must show himself to be worthy, and cultivate also the civilian virtues to the highest degree.

The thoughts and actions of the soldier must be characterized by respect of the law, honesty in his social dealings, austerity and patriotism.

He is thus considered as someone special, not only because he is capable of bearing arms in his Country's defence, but above all because his conduct is based in the highest moral principles.

The first in this scale of values is valour itself, which consists of a synthesis of qualities that are indispensable for anyone who has to face responsibility, risks, danger and sacrifice. However, valour must not be confused with rashness or cruelty. Valour is accompanied by obedience, an essential quality for a soldier. This obedience is not passive, but must be conscious and participatory. Its *raison d'être* lies in the conviction of the need to implement the overall aims of the nation.

In practice, it nourishes and expresses that sublimation of freedom which is discipline, the fulcrum of the hierarchical principle and the strength of any well ordered community desirous of progress.

Discipline thus appears as a corollary linking up the various qualities of the soldier because it tones down courage, preventing it from degenerating into rashness and cruelty; it also rationalizes obedience so that the latter becomes part of the soldier's consciousness.

Unfortunately these qualities are sometimes misunderstood and despised by modern individualistic and hedonistic society. By replacing confidence, solidarity and being with scepticism, selfishness and the idea of gain, modern society has been the cause of widespread psychic conflict and frustrating discouragement among the military.

But these are the values that make the soldier a man with confidence in himself and worthy of respect. Backed up by his character, raised to the level of a coherent life system and, according to Stoetzel, representing the true objective aspect of the personality, these qualities

give commanders the moral strength they need to take the right decisions at the right time, and to accept responsibility for making them.

This moral strength can be present only when it is based on deep-rooted ethical convictions justified and supported by knowledge.

This is the form of military ethics that can survive in troubled and alarming times, in which the structural and cultural factors, over which the atom bomb has cast its shadow, only increase the feeling of uncertainty over the validity of a life style chosen and deepen the sense of isolation from civilized society which sometimes seem to hover this professional category. Although by no means a closed caste, they still preserve and cultivate interests and qualities of their own which characterize their fundamental ethics, but nevertheless remain open to the new technological, organizational and cultural influences.

Protection must be afforded to this military ethics from the insidious threats of beguiling destabilizing forces by affirming that the present-day Armed Forces must not only serve in the Country's defence but also be a means of education and of strengthening the national identity, as well as having new tasks to carry out, such as technological training, emergency services to protect the free institutions and in defence of the community in the case of national calamities and the execution of special high-risk missions (inspection and clearing action, bomb disposal, etc.).

This is the ethics tout court to which William I of Orange was referring when, extolling the principles and actions peculiar to military service in his times, he stated that "there is no need to hope in order to begin, nor to succeed in order to persevere".

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THE REALITIES OF NATO SECURITY



The North Atlantic Alliance recently celebrated its 36th anniversary. Since its foundation in 1949, NATO has successfully preserved peace while guarding the freedoms of the peoples of Western Europe. As a result of the unity displayed by the Alliance and the collective efforts of its member nations we can be thankful that a generation of West European youth has been raised which has never experienced the devastation and the tragedies of war.

Left.

Italian "Alpini" and "Alpenjaeger" of the German Federal Army during bilateral activities.

Below.

A moment of the ceremony for the award of the Italian Paratroops Badge to U.S. soldiers.

ALLIED COMMAND EUROPE



As one of its founding members, Italy has always made an important contribution to the Alliance. Its geographic location has made Italy a cornerstone in the defence of the Southern Region of Allied Command Europe (ACE). Successful deterrence and defence in Europe depend on the ability to maintain ACE's land link with the Southern Region by defending Italian territory while controlling the vital sea areas and air space of the central Mediter-

anean. Italy provides well trained, ready forces vital to the accomplishment of these tasks. Current modernization efforts in all three Italian services are strong evidence of Italy's resolve to continue to fulfill these important missions in the future.

Yet it is not just in her contributions to defence of the Southern Region that Italy has proven her commitment to the Alliance. Italy's decision to deploy cruise missiles on her soil was a key factor in the success

of NATO's intermediate range force (INF) modernization program. This modernization addresses a long standing gap in the spectrum of Alliance capabilities. Italy also makes major contributions of men and equipment to the NATO Airborne Early Warning Force and the ACE Mobile Force – two multinational Alliance programs which contribute to the security of all NATO nations.

The Alliance has built its successful record through the



The Supreme Allied Commander in Europe, Gen. Rogers, with the Commander of the "Susa" Battalion.

efforts of all member nations. However, despite its success, confusion exists in the minds of many of our citizens regarding certain important aspects of NATO's security concepts, policies, plans and aims. If we are to ensure the prevention of war in the future, we will need to seek the continued support of our peoples while eliminating wherever possible the confusion that jeopardizes this support. Clearing up this confusion requires an understanding of the realities of NATO security.

To prevent aggression in Europe, NATO has a deterrent strategy of Flexible Response supported by a triad of military forces: strategic nuclear, non-strategic nuclear and conventional forces. As a defensive Alliance, we do not need to match the Warsaw Pact one for

one in any area of force comparison. However, in order to sustain the necessary balance of forces for each leg of the triad.

Now that the United States and the United Kingdom have embarked on programs to modernize their strategic nuclear forces, the deterrent value of those forces will remain high, if the modernization programs are fully implemented. The NATO decision of December 1979 to modernize NATO's non-strategic nuclear forces addressed a major shortcoming in that important leg of our triad. Continued deployment of the intermediate range nuclear forces, despite Soviet attempts to prevent us, is proof of Alliance resistance to intimidation. Additionally, deployment provides a major incentive for the Soviets to negotiate seriously and

therefore aids in our efforts to achieve a satisfactory arms control agreement.

For some years we at SHAPE have been pointing out that NATO's major weakness is in its conventional leg of the triad. Currently we lack adequate conventional forces to deter a purely conventionally, NATO political authorities would face fairly quickly the decision to authorize the release of theater nuclear weapons. By declining to pay the bill for adequate conventional forces, our nations

have mortgaged NATO's defence to the nuclear response. That is the message we in uniform have been transmitting, but the message is not prompting action to provide adequate conventional forces.

The obvious question is, "what is working against our efforts?". I believe it results from our failure to convince our peoples that there is a threat to their freedom in the future. Our failure has been fueled by a series of misperceptions – let's call them myths – about NATO's defence policies and the nature of the threat we face.

In an alliance of democratic nations such as NATO, defence policy must be debated in the public sector to gain the willing support of the people who must sustain it. The current debate lacks clarity because of the number of myths which have gained credence among too many persons in our nations. These myths are dangerous because they have distorted reality, diverted attention from the real issues and can lead to unwise policy advice. In some cases they have enabled the Soviets to perceive snags and tears in the fabric of Alliance cohesion which they exploit constantly in order to attempt to unravel the transatlantic relationship and thus move them closer to accomplishing one of their primary goals: the separation of the United States from the European members of NATO.

My purpose is to try to dispel some of the confusion by providing my views on some of the myths and realities as they relate to NATO – its strategy, military policies and the nature of the threats we face today. In doing so I hope that I can contribute to the current debate about NATO security and to our attempts to design our future course for Alliance security in a realistic manner.

The myth which we hear most frequently is that there is no threat to peace and security in Western Europe or that NATO exaggerates Soviet and Warsaw Pact military power and ignores the many weaknesses which

plague the Warsaw Pact. It is ironic that this myth is nurtured by complacency stemming from NATO's very success – thirty-six years of peace.

The facts are that the Soviet Union and the Warsaw Pact continue an unrelenting military buildup both quantitatively and qualitatively. The quantitative military balance between NATO and the Warsaw Pact is against us by at least 2:1, and higher in most areas, and that imbalance grows annually. Qualitatively, just since 1970 the Soviet Union has developed and fielded more than 15 new types of aircraft, 9 new ballistic missiles and 25 other types of missiles, over 50 new or modified classes of submarines and naval combatants, and at least 50 new ground force weapons. These developments reflect steady, evolutionary progress that has resulted in significant improvements in the range, speed, accuracy and payload of major new Soviet weapons. Many of the new Soviet systems equal, and in some cases exceed, the capabilities of Western weapons. The day has gone when we could take comfort in the belief that Soviet superiority in numbers could be compensated by the quality of our systems.

The flywheel on the Soviet military growth machine revolves unabated, resulting in a widening gap between NATO's force capabilities and those of the Warsaw Pact. During the latter half of this decade we will see the deployment of an entire new generation of weapons designed in part to replace the systems fielded in such large quantities during the early 1970's. Some of these weapons will reflect Soviet technological breakthroughs and new approaches to warfighting.

But it is not just the growth and sophistication of military hardware which is disturbing. We also see the Warsaw Pact continuing to refine its offensive operational doctrine and exercising its forces in a purely offensive manner. It is clear that the Soviet leaders – should they choose to attack – seek the



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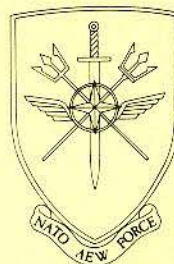
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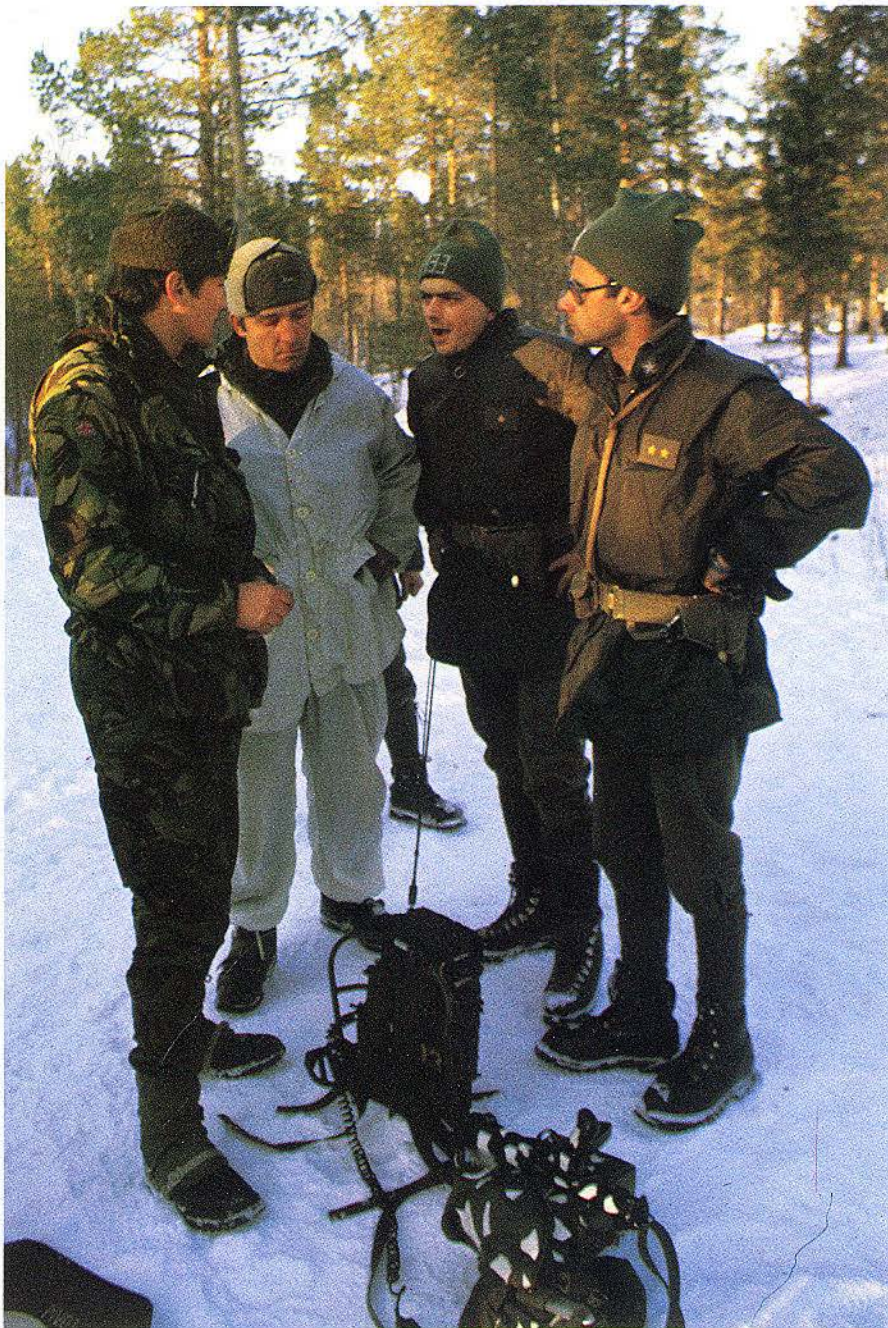
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ALLIED
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APPROACHES



AMF(L) personnel during an exercise. Left to right: two Italian officers, a Norwegian infantryman, a British soldier.

capability to overrun rapidly NATO defensive positions and bring a war in Europe to a quick conclusion before NATO has time to organize an effective defence.

I acknowledge that just using figures of military comparison does not reflect the complete balance between NATO and the Warsaw Pact. We in the West have also been modernizing our forces, though not nearly at the rate of the Warsaw Pact. We enjoy comparatively healthier economies, democratic

political systems and freedoms and a more open and equal alliance of sovereign nations. Our values are worth protecting. The Warsaw Pact is plagued by repeated agricultural failures, weak economies heavily dependent on Western credit, questionable loyalty of some East European nations to Moscow's dictates, a constant concern over China, and severe social and human problems which impact upon the military. But, these weaknesses do not translate into reductions in available

Warsaw Pact military strength. As the trend of the widening gap between force capabilities continues, we must be concerned about the Soviets' exploitation of that gap.

Those who reject relative force capabilities of the Warsaw Pact and NATO and base their judgment only on intentions, should recall that the Soviets have frequently demonstrated a willingness to use military force for political purposes, even in the nuclear age. For example, the invasion and continued subjugation of Afghanistan is a stark warning to those who wonder if Soviet weaknesses translate into restraint in military adventurism.

However, in spite of the very real overt threat, the most likely menace to freedom in Western Europe comes not from a possible outright attack, but as Colin Gray has said with such clarity, "the name of the game in Eurasia is political intimidation in the shadow of military power" (1). This menace, the Soviet objective in Western Europe, would manifest itself in demands for political and economic concessions and a veto power over the form of our security measures. The potential reality our people must face is: if the gap in force capabilities continues to widen, making the military situation (even for a defensive alliance) beyond restoration, there is the very real danger peace may continue in Western Europe but our freedom could gradually erode as critical Western decisions are made in the shadow cast by the Warsaw Pact's massive military might.

We should acknowledge that the Soviets do not want a war. They simply want to reach a balance of forces by which they can achieve their objective without having to fire a shot or even call their troops out of their barracks.

There is a rather insidious corollary to the myth that Soviet military power is exaggerated. That corollary contends that current American security policy is an equal threat to peace. Those who accept and perpetuate this myth sometimes ascribe a moral equivalency of purpose between the Soviet and the American objectives in Europe. This myth is especially dangerous because it has a degrading effect on cohesion within the North Atlantic Alliance. United States policy in Europe today has been formulated against a backdrop of the menace our nations face collectively and is directed towards protecting common vital interests in conjunction with US allies. All the Allies must now pay increased defence bills because of Soviet disregard for detente in the 1970's, because of continued Soviet global adventurism and because of the continuing Warsaw Pact military growth. We should remember that it was not the United States that disrupted the military balance in Europe by a massive military buildup, highlighted by the deployment of SS-20's, 21's, 22's and 23's; nor the United States that has sent over 100,000 soldiers into Afghanistan; nor the United States that pressured the Polish military to destroy the aspirations of the Polish people for human rights.

The view that United States policy, because it is more assertive in the defense of Western interests, is somehow responsible for global unrest results from an unwillingness on the part of those who hold this view to face up to the realities of the world today. Soviet objectives vis-à-vis the West are counter to our interest, despite the Soviet's rhetoric for peace. All of us want peace, but we in the West want peace with our freedom intact.

To achieve that goal, NATO was formed as a defensive Alliance. The United States, as the senior partner of NATO, fully subscribes to NATO's primary mission: the deterrence of war. NATO nations do not seek one

inch of Warsaw Pact territory. Further, NATO will not be the first to employ military force in Europe. The historical record bears these statements out. Since the founding of NATO, the only nation to use military force against a Warsaw Pact country to achieve political ends has been the Soviet Union itself.

Anyone who is tempted to see a symmetry of moral purpose between the Soviet Union and the United States, should compare the quality of life today in West Germany with that in East Germany. Moscow uses its power at home and abroad to stamp out the freedoms which are a threat to its system. America and its allies use their power to protect our many democratic freedoms and to liberate creative talents – a major difference.

There are some who argue that the Alliance nuclear capability is sufficient to deter any Soviet threats to Europe. This is frequently offered as justification for not doing more to improve conventional capabilities. This, too, is a myth because it ignores some basic facts to the contrary. Over-reliance on nuclear weapons could actually encourage the threat of a conventional attack since the Soviets might find incredible NATO's threat to commit mutual suicide as a response to all acts of aggression. Additionally, such a posture would frighten our publics and give added support to those who advocate unilateral disarmament or neutralism as an alternative.

Finally, reliance solely on nuclear weapons will not enable us to resist intimidation and coercion – the more likely menace to our freedom – because the physical protection of our territory and our interests can only be provided by conventional forces.

Another myth is that NATO's strategy of Flexible Response is no longer appropriate for today and tomorrow. Some argue that changing conditions in the military balance and the technology of the modern battlefield have rendered our strategy of Flexible Response outmoded.

This is not so! Flexible Response is the only strategy which, when supported by adequate forces, takes full account of the imperatives of deterrence in the European environment. Its goal is to deter by posing costs to a potential aggressor which would outweigh any possible gains he might seek.

The strength of our strategy is the range of responses available to meet aggression. Should deterrence fail, we will seek first to defeat the aggressor at the level at which he has chosen to fight. By this direct defence, we hope to place on the aggressor's shoulders the burden of deciding whether to cease his attack or to escalate the conflict. This is our preferred response. If our direct defence is unsuccessful, NATO is prepared to escalate the scope and intensity of the conflict, thus directly challenging the enemy's will to continue his attack. The third level, the general nuclear response, is the ultimate guarantor of deterrence prescribed by our strategy and poses the threat of massive intercontinental nuclear strikes on the enemy's homeland, the one thing the Soviets fear most. This strategy of Flexible Response, backed by an adequate spectrum of military capability, is designed to create uncertainty in the mind of any potential aggressor about the manner in which NATO might respond and to make it impossible for him to calculate the losses he might sustain. The greater the aggressor's uncertainty and incalculability about the ultimate risks he takes in initiating hostilities, the stronger our deterrence will be. Therefore, I disagree with those who suggest NATO needs a new strategy. Flexible Response is militarily sound and politically agreed among the Alliance members. The main challenge is to convince the people of our NATO nations to provide the improved conventional capability necessary to support the strategy.

There are also myths related to the manner by which we in Allied Command Europe are

trying to improve our conventional forces. Since 1980 our priority tasks for such improvements have been:

- First, to do better with the forces already committed to ACE by bringing them up to ACE standards for manning, equipping, training, sustaining and reinforcing. These are the forces which will man our General Defensive Position and must hold against the lead echelon of attacking forces.

- Second, to continue to modernize our weapons systems, and as we do, to seek the means to improve our ability to reduce to manageable proportions the number of Warsaw Pact forces arriving at our General Defensive Position.

- Third, to add to our force structure, especially with mobilizable, trained reserves.

To accomplish our second priority – seeking means to reduce to manageable proportions the number of Warsaw Pact forces we must engage at the General Defensive Position – we developed at SHAPE a sub-concept of operations called Follow-on Forces Attack (FOFA). There are many myths surrounding FOFA.

FOFA is an operational concept designed to complement our conventional defence efforts at the General Defensive Position. It achieves this by attacking with conventional weapons systems those enemy forces which stretch from just behind the troops in contact to as far into the enemy's rear as our target acquisition and weapons systems will permit us to locate and attack his forces. At present we have the ability to attack enemy follow-on forces with some short-range, indirect fire weapons and manned aircraft.

Having outlined what FOFA is, I want to refute some of the myths that surround it.

- It is *not* a new strategy: it simply provides the means to implement our current strategy more effectively.

- FOFA is applicable to current Warsaw Pact doctrine: it takes account of the latest changes

which include the Operational Maneuver Group and the circumstances in which the enemy's lead echelon may be thickened by second echelon troops.

- A FOFA capability will *not* be acquired at the expense of our forces defending at the General Defensive Position: defending at the GDP and attacking follow-on forces are complementary and mutually reinforcing mission components.

- FOFA is *not* an offensive strategy: as always in the past, we must let the Warsaw Pact know that if they initiate an attack, their forces will not enjoy the benefit of sanctuary in their own territory.

- FOFA is *not* U.S. Army Airland Battle by another name. Our planning for this sub-concept cannot accept pre-emptive attacks (NATO will not fire the first shot); nor does FOFA envision ground counter-offensives across our nations' borders heading deep into the enemy's rear area; or the integrated use of conventional, chemical and nuclear weapons.

- FOFA is *not* reliant upon the weak reed of emerging technology: our thinking is to improve on current proven technology, while not missing the opportunity to exploit for our purposes the new advanced technology if it proves mission effective and cost effective.

Some people, especially in Western Europe, also argue that by improving our conventional capacity we will make war in Europe more likely. This is another myth. The additional conventional capability which we seek is limited to that required to offer a reasonable prospect of frustrating a conventional attack. Such a level of conventional improvement will not permit the renunciation of either the possible first-use of non-strategic nuclear forces to prevent being overrun, nor the role of US strategic systems as the ultimate deterrent. Improved conventional posture will strengthen our deterrence of war, not weaken it. NATO's perceived ability to protect its territory



– and not just threaten to bring on a holocaust – will strengthen the only worthwhile firebreak: the one between peace and *any* kind of war.

Other myths also arise which impede our ability to get our message across when our people contemplate the cost of the conventional force improvements we seek. Some argue that such improvements cost too much. Others claim that because budget resources are tight – and when have they not been – increasing defence spending can only be accomplished at the expense of necessary public and social programs.



General Rogers together with the "Alpini" of the "Susa" at chowtime.

force readiness and determination are protective. These latter are also the qualities which can provide incentives for the Soviets to negotiate seriously for arms reduction accords. And I happen to be one who believes that, if the future we all want is one of peace with freedom, greater international stability and reduced and balanced levels of arms of all categories, that future lies at the negotiating table in the form of arms reduction accords. Thus, it behooves us in the West to provide positive incentives for serious Soviet negotiating.

CONCLUSION

Our mutual hopes for the future rest on our willingness to do what is necessary to strengthen Alliance deterrence across the entire spectrum of conflict. Some additional sacrifice by our people will be required, but the results will be worthy of our efforts. In this regard, the next few years will be a critical time for our Alliance. We will either see NATO take those actions required to strengthen deterrence or we will see the gap between Warsaw Pact and NATO capabilities widen to the point that the balance – even for a defensive alliance – cannot be restored. We do not have to accept the latter situation as inevitable.

The threats that we as an Alliance face today are less visible – but just as real – as on that day in 1949 when twelve nations signed the North Atlantic Treaty which gave birth to our great Alliance. Now, 36 years later, we have grown to 16 nations, still strongly united by the desire to see peace last with our freedoms intact. NATO has indeed been the most successful peace movement the world has known.

In reality the conventional force improvements that we seek can be affordable. But it is also true that they become more expensive every year we delay them. If we commit ourselves as an Alliance to making steady, consistent and gradual increases in defence spending, I believe we can acquire the increased capability we need without economic dislocations or sacrificing necessary social programs. The key point is that security and freedom comprise the most basic, necessary social service which a nation must provide its people. It is the primary moral imperative of government.

Some have argued – erroneously in my judgement – that improving military strength threatens our ability to achieve what we all desire – a world at peace. I disagree. History has shown that wars come to nations when they are weak militarily. If we have learned anything from history, it is that strength and the readiness of the forces threatened by an adversary's excess accumulation of military power are not provocative. Rather, they are essential to the preservation of peace with security. Weakness, unpreparedness and equivocation are provocative. Strength,

Irving Berlin, a famous American composer, once said, "The toughest thing about success is that you've got to keep on being a success". Never has it been so important to so many people for an organization, NATO, to keep on being a success.

Bernard W. Rogers

(1) Colin Gray, "International Order and American Power", *Air University Review*, Sept.-Oct. 1984, p. 49.

GENERAL BERNARD W. ROGERS

General Bernard W. Rogers was born in Fairview, Kansas, and entered the United States Military Academy, West Point, New York, in 1940, was First Captain of the Corps of Cadets, and graduated in June 1943 as a Second Lieutenant of Infantry.

From 1947 to 1950, he attended Oxford University, England, as a Rhodes Scholar, receiving a Bachelor of Arts and Master of Arts in Philosophy, Politics and Economics.

In June 1952, he joined the 2nd Division in Korea and commanded the 3rd Battalion, 9th Infantry Regiment. He then joined the staff of the Commander-in-Chief, United Nations and Far East Commands in Tokyo, Japan.

Following attendance at the Command and General Staff College, Fort Leavenworth, Kansas, he again joined the 2nd Infantry Division as Commander of the 1st Battalion, 23rd Infantry, Fort Lewis, Washington.

In June 1956, he was assigned to the Office of the Chief of Staff, US Army, in Washington, DC, serving with the Coordination Group and as Executive and Senior Aide to the Chief of Staff.

After graduating from the US Army War College in 1960, he was assigned to the 24th Infantry Division in Augsburg, Germany, where he commanded the 1st Battle Group, 19th Infantry, and later served as Chief of Staff of the Division.



He was then assigned to the Office of the Chairman, Joint Chiefs of Staff, and served as a Military Assistant to the Chairman, then as Executive Officer to the Chairman from May 1963 until October 1966.

In November 1966, he became Assistant Division Commander of the 1st Infantry Division in the Republic of Vietnam. In September 1967, he was assigned Commandant of Cadets at the United States Military Academy, West Point, New York. From September 1969 until December 1970, he was Commanding General of the 5th Infantry Division (Mechanized) at Fort Carson, Colorado. He served as Chief of Legislative Liaison in the Office of the Secretary of the Army from January 1971 until October 1972. He became the Deputy Chief of Staff for Personnel, Department of the Army, on 1 November 1972. On 18 November 1974, he assumed command of the US Army Forces Command. He was the US Kermit Roosevelt Lecturer in 1976.

On 1 October 1976, he became Chief of Staff, United States Army, serving in that position until assuming duties as Commander-in-Chief, US European Command on 27 June 1979. General

Rogers became Supreme Allied Commander, Europe, effective 29 June 1979.

General Rogers has been awarded the Distinguished Service Cross, Defence Distinguished Service Medal, Silver Star, Legion of Merit with three oak leaf clusters, Distinguished Flying Cross with two oak leaf clusters, Bronze Star with "V" device and oak leaf cluster for merit, Air Medal with "V" device, Army Commendation Medal with oak leaf cluster, Vietnamese National Order, 5th Class, Vietnamese Cross of Gallantry with palm (two awards), and various other foreign decorations. He has been awarded Honorary Doctorates of Law from Boston University and Akron University and an Honorary Doctorate of Civil Laws by his Alma Mater, Oxford University, England. General Rogers is also an Honorary Fellow of University College, Oxford University, England, and a member of the Council on Foreign Relations.

General Rogers married Ann Ellen Jones in December 1944. General and Mrs. Rogers have three children, Michael W. Rogers (Captain, US Army), Mrs. Diane E. Opperman and Susan A. Rogers.

OTO C 13

ARMoured INFANTRY FIGHTING VEHICLES

Weight: 15,000 ÷ 19,000 kg

Road Speed: 70 km/h

Range: ~500 km

Versions: IFVs, APC, Ambulance, Cargo Carrier (payload 6.5 tm)

Armament:

- IFVs: 20, 25, 90 mm gun + 7.62 MG +
6 grenade launchers + firing ports.

4 x 25 mm AA System.

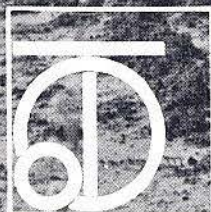
60 mm gun + 7.62 MG +

8 grenade launcher + firing ports.

TUA + 7.62 MG.

- APC: 12.7 MG + 8 grenade launchers +
6 firing ports. Crew 12.

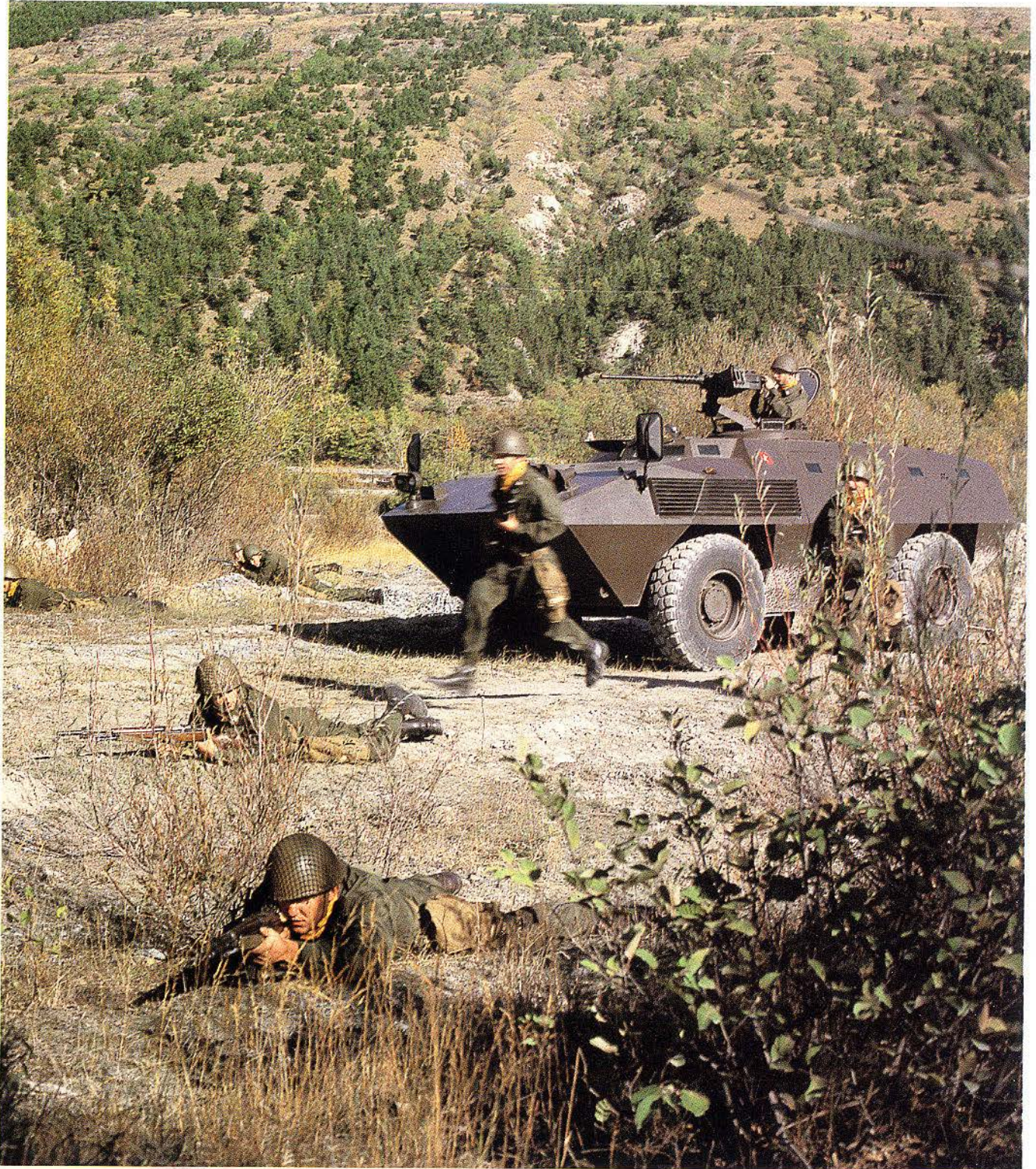
- Cargo: 12.7 MG.



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EVOLUTION OF THE NATO STRATEGY



... WITH A BIT OF SCIENCE FICTION

INTRODUCTION

It is generally believed that the success of a military operation depends mainly on two factors: the validity of the available instrument and the way it is employed.

In the term "validity" there is a confluence of various elements, of different weight but, nevertheless, all necessary: the size of the forces required to attain the goals; the quality of the available arms and means, which must match the adversary's and if possible outdo them; the organizational structures of the battle forces, such as to permit – thanks to a marked flexibility – manoeuvring down to the lowest levels; the degree of the units' training, the cadres' spirit of enterprise; the capability of enduring a prolonged war effort and, finally, the consciousness of fighting for a just cause.

As for the "method of employment" a distinction must be made between doctrine and planning.

The first defines the principles that must inspire the Commanders in conceiving, organizing and leading the operations, without a definite connection, neither with the political situation nor with the geographical picture. The doctrine becomes less binding as the authority level becomes higher and as – consequently – the responsibility of the receivers grows. Being comparatively independent of contingent factors and also due to the time required for its elaboration by one side, and its assimilation by the other, the doctrine changes rather slowly and almost never in a revolutionary way, unless the scientific progress induces a sudden break from the past, as was the case with the appearance of the nuclear explosive.

The planning decides, in the light of the doctrine, how to employ the forces in a determined theatre of operations, taking into account the enemy forces and the features of the natural environment.

The relation between doctrine and planning is much closer and evident in the forces belonging to an individual Army or in those of a coalition dominated by a leader state such as, for instance, the Warsaw Pact. In the coalitions such as NATO, in which the participating nations have, at least nominally, an equal standing – and which despite their efforts, have obtained, as regards standardization, rather modest results, so that they have replaced it with the less

ambitious and more indefinite objective of interoperability – the connection between doctrine and planning is not only less evident, but appears more or less shaded in the various operative areas in which the Alliance is divided.

Visible and remarkable in the areas where the forces of a single country operate, for instance the Italian North-eastern theatre, it is less so in the areas where there are forces of several countries, for example in Central Europe. Here, while at low level the national doctrines of employment are widely applied, at the level of complex Major Unit, from Army Group to Corps, they are replaced in practice, in order to achieve the indispensable homogeneity of behaviour, by the directives of the Supreme Commander, which configure the strategic conception of the Alliance and, although deriving from a compromise, inevitably reflect the official – and unofficial – thought of the country of origin of the abovesaid personality.

Later in this discussion we shall see the practical consequences of this phenomenon; for the moment we shall limit ourselves to observing that this does not have only negative aspects, because, often, the absence of excessive constraints stimulates the initiative of the subordinate Commanders and can lead, if coupled with operational imagination, to positive results, beyond all expectations and sometimes totally unforeseen.

For some time – and more precisely, from the moment when four distinguished American personalities (1), preceded by the more modest writer of this article (2), questioned the idea of the first use of nuclear weapons, which is the cornerstone of NATO's present strategic conception, called flexible response – there has been a lively debate over the most convenient way of confronting a possible aggression by the Warsaw Pact. The military experts, and the increasing number of civilian students who have been participating in the debate by writing on newspapers and magazines, as well as participating in seminars, panels and open discussions, though differing in specific knowledge and experience, are drawn together by the common intent of divulging the military themes and contributing to the solution of a problem on which the destiny of our continent and the very survival of mankind may depend.

In the following pages, after pointing out the reasons that have shaken the confidence in flexible response, I have

the intention of summarizing the various theories, advanced recently, aiming at modifying and eventually renewing the NATO strategy; to see whether these theories are consistent with the fundamental principles of warfare and, more particularly, if they are applicable in the operational context that would arise in case of general conflict in Europe, and, finally, to call the readers' attention to some proposals on this subject, which have been suggested to me by the long years, in Italy and abroad, devoted to the study and elaboration of the military thought.

As it is my wish that this work be read and easily understood by the younger officers and by the public at large, who have been reading the *Rivista Militare* with increasing interest, thanks to the guidelines of the Army Chief of Staff which have been intelligently implemented by the Editor, I shall try to express my thought in a simple way, avoiding approximations as well as abstruse concepts and complicated terms, such as "triads, heptads, asymmetries, subconventional units, territorial war or people's war (very fashionable at present), remembering the teaching of a professor of history at the War College, the unforgettable General Moscardelli, who used to tell us – at the beginning of the Fifties – that if someone's thought cannot be manifested in a comprehensible way it means that the thought itself is not clear in the mind that has conceived it (a valuable norm for me, too!).

Facing page.

Italian soldiers disembarking from an ACP FIAT Oto Melara 6614 (4x4). This vehicle, protected by welded steel plates, can reach a speed of 100 km/h; maximum gradient 60%. It carries a fully equipped rifle squad, that can fire its individual weapons through ten firing ports fitted with bulletproof vision ports.



FLEXIBLE RESPONSE AND THE CAUSES OF ITS LOSS OF CREDIBILITY

The present NATO strategy is based on two concepts, about which there is a remarkable confusion, and the unjustified tendency to link them together: advanced defence and flexible response. Both concepts involve operational choices suggested by precise political motivations. Let us try to clarify this statement.

It is well known to experts that he who does not want to take the initiative of military operations, and is therefore liable, in the state of tension that marks the present international relations, to suffer an aggression, can choose between two solutions: to resist on a position close to the threatened frontier or to manoeuvre in a retreat, in order to gain time by giving space: interposing a distance between the attacking forces and their logistic bases, at the same time weakening them with fire, obstacles and local counterattacks, while waiting for reinforcements, with the help of which the defence can be established in a rear position.

The first solution, less bitter than the second because it does not entail territorial losses, assumes that the proportion of forces, as a rule in favour of the attacker, should not be excessively negative, because, if it were so, a field battle would be hopeless and could have very serious consequences on the conflict's outcome.

This is the solution which the Czarist armies, taking advantage of the immensity of their territories, chose when confronted by Napoleon's attack; the same solution was intended by the newly founded NATO, faced by the Soviet Union's overwhelming superiority.

It is evident that after the Federal Republic of Germany's joining of the Atlantic Alliance, made official in May 1955, the German territory could not be considered a space to be exchanged for time, all the more that the contribution given by the Federal forces made the outcome of a frontier battle less uncertain.

The strategy of flexible response adopted in 1967 has the purpose to put into action, in a logical and operational concatenation, means proportionate to the size of the offensive, in order to avoid closing the door to a dialogue, which would become impossible if one yielded suddenly or, by over-reaction would induce the aggressor to make abrupt and massive accelerations.

To begin with, being unlikely that the Soviet Union will initiate the operations employing the nuclear weapon, the response would be exclusively conventional, growing in intensity according to the increasing seriousness of the situation. Secondly, the nuclear factor would step in, at first with a warning purpose (low-blast explosions, as "clean" as possible, against uninhabited zones and military objectives), then in the tactical field, in order to increase the land forces' ability to resist (explosions over artillery deployments, at theatre level, in order to exhaust the adversary

Royal Air Force "Jaguar" aircraft. The "Jaguar" is a single-seat fighter for tactical support, with air combat capability (A and S versions) and is used, in the two-seater version, for advanced training. It can reach a speed of 1,320 km/h at sea level, is armed with two 30 mm guns in fixed belly position, and is fitted with 5 attach points, to which a war load of 4,536 kg can be hooked. The "Jaguar's" wing tips are provided with mountings to carry air-to-air missiles.

advanced instrument (explosions on 2nd echelon Major Units, missiles bases, airports and runways of the support air force, territorial logistic depots, road junctions) and mainly to let the aggressor realize that the limit of tolerability (i.e. the intercontinental nuclear exchange) is about to be reached.

The third and last stage has no territorial bounds and wears the terrifying face of general nuclear war, which would bring mankind – or, rather, its survivors – back to the Stone Age.

First of all, and more than a strategic directive, the theory of flexible response wants to be a warning to the enemy that we are firmly determined to employ all means, including the extreme ones, in order to stop an aggression. And not only that: the gradualness of the response should cause some "reconsideration" in the

party who has started the hostilities, allowing him to stop them before, escalation by escalation, the irreparable is reached.

The first criticism that can be made on the purely military plane to the doctrine of flexible response is that it sketches a rather artificial outline of reactions, in which the actions to which such reactions are intended to respond seem to be wishful thinking rather than conform to a general programme of manoeuvre – that of the aggressor – which, at the beginning at least, should be considered as prevailing, because the attacker is largely in a position to choose the time, the places and, above all, the ways of his offensive. One forgets, in substance, that every armed confrontation is, from the human point of view, nothing but a confrontation of wills, each striving to prevail over the other, and the greater the superiority of available means is, the better are the chances to succeed (this remark should be kept in mind also when assessing the new ideas proposed today for the defence of Europe).

More particularly my disagreement vis-à-vis the flexible response concerns both the conventional component and the subsequent nuclear component.

On the conventional plane, because the field battle – a fundamental act in the strategic manoeuvre, owing to its consequences which, if not decisive, give nevertheless the prevailing side remarkable advantages in view of the subsequent operations, and a highly dramatic act for the loss of lives and equipment that it entails – follows a logic and complies with a scheme that cannot be disregarded, save the exceptions that prove the rule.

The *logic* is that of every test of strength, in which each of the two opponents tries to overpower the other, and to accomplish that he does not wait until the enemy has put him in bad shape.

The *outline* can be summed up as follows:

- he who takes the initiative of operations, and has the necessary resources if not the moral justifications, strikes at once to attain his goal, in order to take advantage of the surprise effects, sweep away the advanced defences and, as soon as possible, move the fight to the open field, where his superiority can prevail;
- in his turn, he who defends himself, having opposite aims, avails himself of

all means at his disposal in order to stop the attack within a certain depth, cut down the penetration as it starts and regain the lost ground as soon as possible.

This outline, which gives good chances to a skillful defender, is valid on condition that an excessive disparity of forces does not induce, under penalty of a rapid and irreparable yielding, an accelerated increase in the intensity of the response, shortly resulting in having to rely on the employment of nuclear weapons as the only way out.

On the nuclear plane, it is unlikely and rather unrealistic that the Soviet Union will endure, without reacting, that small number of nuclear strikes, however limited and demonstrative, which, in NATO's intentions, should prove its firm resolution to resist the aggression at all costs. The Soviet Union could have done so in the years of its nuclear inferiority, but why should it do that now, that the terms of comparison are reversed? And if, as it seems logical, it did not want to tolerate it, a chain reaction would start, whose ruinous outcome would be a general nuclear war.

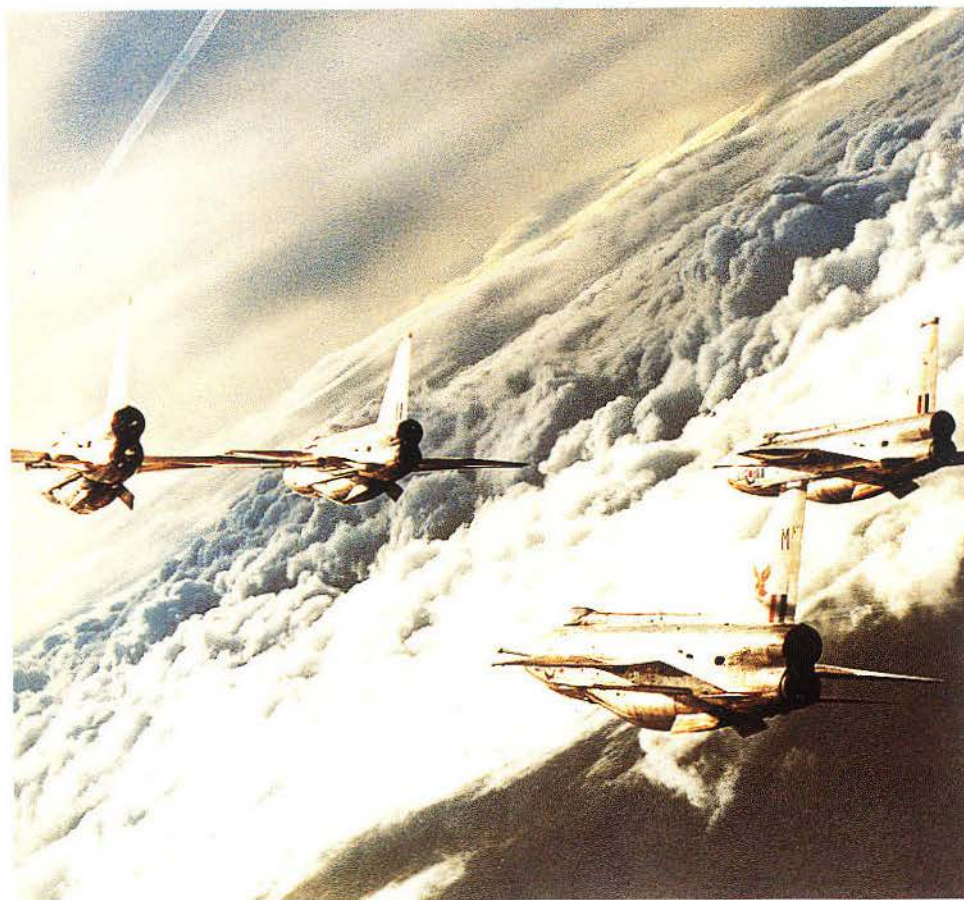
On the other hand, let us not forget that the keys of nuclear power are, for the greatest part, in the hands of the United States and one does not see why the U.S. should use them if, by defending Europe, it would be risking its very survival.

SYNTHESIS OF THE MAIN PROPOSALS FOR THE EVOLUTION OR THE OVERCOMING OF THE FLEXIBLE RESPONSE

The by now widespread conviction that the concept of flexible response has become outdated – mainly because it is most unlikely that NATO should deliberately want to be the first to start a nuclear war – has promoted the devising of complementary proposals and alternative hypotheses, which are all characterized, albeit in a variety of solutions, by a revaluation of conventional operations, in the declared intent to raise the nuclear threshold and, implicitly, to avoid overstepping it.



Rescue tank of the German Democratic Republic on T54-55 hull. Up to the '50s and '60s the T54-55 medium tanks were in service with the motorized infantry, armoured and amphibious Divisions of the Warsaw Pact countries and, from 1963, have been replaced by the T62. The hulls of the T54-55s – weight 35t, range 400 km, maximum speed 50 km/h – have been used for a number of special duty tanks: Mine-clearing; Engineer; Bridgelayer; Dozer.



Royal Air Force "Lightning" aircraft. The "Lightnings" which entered service in 1968, have been gradually replaced from 1977 by "Phantoms"; the last two units equipped with the elderly airplanes have been only recently assigned the air defence version of the MRCA "Tornado".

The "Lightning", armed with two 30 mm. Aden guns, two De Havilland Firestreak missiles and 48 canistered rockets, can reach a speed of Mach 2.3 at an altitude of 11,000 m.

And still not many years had gone by since the 1976 edition of the same handbook, which, written shortly after the Vietnam war and having mainly the European situation in mind, envisaged – despite its title, "Active Defence" – a war of predisposed positions, exceedingly static, based on fire rather than movement, and on the wear of the enemy forces rather than on their disintegration.

Influenced by the more political than operational decision to conduct an advanced defence against an adversary who, with a global superiority of 3 to 1, is in a position to remarkably raise locally, the ratios to his advantage, the FM 100-5 of 1976, in conclusion, suggested a covering deployment of almost all the means, in the hope of stopping the first wave of the attack but with no possibility to withstand the following waves, thus making inevitable an early recourse to nuclear weapons, without explaining how these would be integrated with the conventional weapons and in what manner these means, reduced to the rank of support by the intensified nuclearization of the battlefield, could combine with the "nuclear" which would be given the rôle of protagonist.

The acknowledged intrinsic weakness of the defence envisaged in the 1976 edition of the FM 100-5 opens the way to a new concept, the "extension of the battlefield", which is added – and in determined future circumstances tends to exclude it (4) – to the concept of "integration of the battlefield", intended as a combination of conventional and nuclear factors. A concept which, though attenuated vis-à-vis the initial formulation proposed in the already mentioned TRADOC document 525-5, is largely reflected by the Airland Battle.

Thus we read in the new FM 100-5 that the aim of any operation is the destruction of the enemy forces and that this aim can be attained by breaking the cohesion of the enemy instrument with powerful initial strikes coming from unexpected directions, and by exploiting their effects, in order to prevent the enemy from reorganizing himself.

The best results are obtained, better than by attacking the forward formations, by delivering these initial strikes on the units that protect the areas of vital importance, the loss of which could seriously endanger vast sectors of the opposing deployment.

Among these proposals and hypotheses we shall examine the "Airland Battle", outlined in the U.S. publication FM (Field Manual) 100-5 "Operations", ed. 1982, and the Rogers Doctrine, so called after the name of its author, the Allied Supreme Commander in Europe. The two proposals seem to be the most significant, apart from the authority of the sources, the first for the originality of the theses it advances, which justifies, with a little emphasis, the title of this survey; the second, for its precise reference to the defence of our continent.

We shall also mention fleetingly some nonofficial schools of thought which, all inspired by the conviction that nuclear war must be averted, are quite different from the U.S. doctrine as well as from the Rogers concept, though they include some traits of both, and contribute, with their originality, to enliven a debate which cannot but help finding a strategy for NATO, less dangerous than the one now in force.

THE AIRLAND BATTLE

The "FM 100-5 Operations" (3), which contains the Airland Battle doctrine, was published on August 20, 1982, but some anticipations had already been given in March 1981, in the document 525-5 of TRADOC (U.S. Army Training

and Doctrine Command) and in an article by Gen. Donn A. Starry, Chief of TRADOC at the time, appeared on the "Military Review", no. LXI; all had the main purpose to provoke reactions, helpful for improving the text being prepared. Before the publication of the FM 100-5, TRADOC had also published a study projected beyond the Eighties (to which the FM 100-5 was limited) which had been termed "Airland Battle 2000", thus creating a considerable confusion between what was deemed possible in the short term and what the not yet perfected emerging technologies would have permitted at a later date.

The FM 100-5 is centred on Corps, Division and Brigade level, where – it states – battles are won, but not wars, and excludes military strategy, seen as a way of using the Armed Forces of a nation to attain the objectives set by politics.

Conceived mainly as a regulation for offensive operations, it is valid, with the due adjustments, also for the defensive ones, and this ambivalence, or better this wide possibility of application, is one of its outstanding features.

It evinces a marked offensive attitude, which is expressed with the insistence on the principles of manoeuvre, fire power, movement, rapidity of execution, flexibility of action, initiative, cooperation among the various branches of the Army and between the land and air forces, and the coordination with the Allies.

"Aist" class amphibious ship, in operation with MIL Mi-24 helicopters during an exercise of the Warsaw Pact forces.

The "Aist" class units are large air-cushion ships, capable of carrying three BTR 60 vehicles and an 80 t load at a speed of 58 knots. The ships, armed with four 30 mm guns, are approximately 48 m long.

The enemy must be attacked in depth, with unexpected, swift, and violent actions, relying on fire and movement, maintaining the flexibility necessary to move forces and fire where the adversary is weaker, and, by a speeded up tempo, precluding him all possibilities of effective reactions.

Proceeding from principle to practice we observe, together with the previously mentioned Lt. Col. Cocchia, that:

- the attack against the second echelons of the Warsaw Pact, which – according to our official terminology – should be distinguished as echelons and Major Units of second alignment (5), must occur as soon as the two confronting formations come into contact and, therefore, mostly when they are still on their own territory, and this for two main reasons, which, as someone contends, have nothing to do with the insufficient space for manoeuvre on NATO's side: in order to avoid transforming the FRG's territory into a conventional – and possibly nuclear – battlefield and, more important, for the awareness that, once the advanced defences are broken, the Soviets and their allies could easily spread in the open field, outflanking, surrounding and overwhelming the rather scarce allied reserves;

- the possibility to move forward the combat at the right time is linked to the availability of: systems for the survey of the battlefield and for the acquisition of objectives, performing much better than the present ones; means that the western technology could afford but at considerable cost and not within a very short time; launchers of adequate range and strike power to which the above remarks apply too, and lastly a command and control network capable of receiving, evaluating and distributing, almost in real time, a great bulk of information and orders, in order to manage a battle characterized by ample spaces, swift pace, contemporaneity of defensive and counteroffensive actions, the coordination of which is of crucial importance if one does not want to run the risk of seeing the almost assured destruction of the pawns left on the chessboard without the support of the surrounding pieces;

- extending the theatre of the action entails greater responsibilities for the Commanders at the various levels, for each one of them has the primary duty to stop and defeat the opposing unit and the complementary one to keep an



eye on the other forces that show up in the area assigned to him, foreseeing as much as possible their intentions.

Before ending this paragraph I deem it appropriate, in order to justify the evaluation that will be made further on, to cite some interpretations of the new doctrine, not always concordant, published on specialized U.S. reviews.

Thus, Lt. Col. John S. Doerfel affirms on the "Military Review" of May 1982 that, helped by the difficulties that the Soviets find in dissimulating the modalities of deployment in depth of their forces and the rigidity of their system of command, the first echelon American Corps, during an operation well inside the enemy defences, will aim at destroying the adversary formations rather than gaining land, avoiding nevertheless to engage in a decisive battle as well as in wearing actions. To this end, they should rapidly move beyond the line of contact, penetrate deeply in the enemy territory, neutralizing during the movement all the objectives encountered, and get ready to prosecute the attack behind the first echelon Divisions.

In his turn Lt. Col. L. D. Holder does not deny, in the same issue of the "Military Review", that employing forces of manoeuvre within the attacking instrument is somewhat risky, but he contends that the chances of success for this type of operations are so high that they justify running the risk of a possible negative outcome.

On the contrary, Col. Trevor N. Dupuy appears sceptical. He writes on the August 1982 issue of the "Armed Forces Journal International": "...if the Warsaw Pact is capable of destroying our defensive potential with the sole forces of its first echelon, it is of very little importance whether we can inflict losses to the second echelon or delay its advance. If, on the contrary, we are so strong as to resist the first echelon it would not be convenient to weaken ourselves launching a part of our troops to the attack of the second echelon".

Finally, an acute interpreter of the Airland Battle, Lt. Col. R. Hart Sinnreich, has observed (6) that every attempt made by the United States to convince NATO to adopt a classic strategic offensive would increase the doubts, widespread in Europe, about America's strategic prudence and would end by weakening considerably the cohesion of the Alliance, adding that an offensive conception could lead to a result contrary to that pursued, as it would make the Soviets' recourse to nuclear weapons very probable, just when all want NATO to give less importance to the nuclear factor.

THE ROGERS CONCEPTION

Gen. Rogers, a capable strategist and keen observer of the manifold and complex problems on which the defence

of Europe depends, perceived long ago that the increasing conventional inferiority of NATO vis-à-vis the Warsaw Pact dangerously lowers the nuclear threshold and poses a dramatic alternative: either to accept a rapid collapse of the western resistance when confronted by an aggression, or to take the road of nuclear war within a very short time.

Being stated that it is impossible to renounce the threat of employing the nuclear weapon, which presupposes the re-establishment of a balance, both in order to deprive the Soviet Union of the trump card of political intimidation and to prevent the forces of the eastern bloc – freed from this threat – from closing the net of the attack instrument, concentrating in the areas chosen for the breakthrough, thus speeding up the pace of the action, the Allied Supreme Commander has repeatedly pointed out in various forums, including our ISTRID (Istituto Studi e Ricerche Difesa), NATO's possibilities to dissuade the Soviet Union from a military initiative and, failing deterrence, its possibilities to increase its ability to resist an aggression.

In order to understand Gen. Rogers' thought, his articles published on "Foreign Affairs" of Summer 1982 (7), on the official NATO monthly "NATO Review" of February 1983 (8), on "NATO's Fifteen Nations", February-March 1983 (9) and on "Strategic Review" of May 30 of the

same year (10) are of fundamental importance.

In substance and in short, stated that the Warsaw Pact would base its offensive on the principle of mass, (to achieve a rapid breakthrough) and succeeding waves, (to exploit success). General Rogers deems that, granted the importance of the advanced defence's resistance, one must cut and possibly paralyze the supplies to the initial effort, by attacking the enemy second echelons, forcing the Soviet Union either to desist or to take responsibility for the first nuclear strike; this means raising the threshold, apart from the political and moral aspects of the supposed Soviet decision.

Three measures should be taken in order to reach this result: overcome the present NATO shortcomings, update the Allied forces, take advantage of western technology in order to improve the means for the location and destruction of the enemy reserve formations. The third measure, in its turn, includes various provisions: availability of devices for the surveillance of the battlefield, which should permit to locate and acquire in real time the most vulnerable objectives; existence of a well sheltered system of command, capable of transmitting information and decisions; availability of classical weapon systems, allowing us to hit with great precision and effectiveness the

objectives located beyond the contact line. In this regard, the new munitions being studied now open interesting prospects. They are equipped with a large number of shells and can neutralize numerous units not yet engaged, or prevent such units from approaching the critical areas of the battle under way.

According to Gen. Rogers, the cost of these improvements, whose value would considerably increase the capability of NATO's conventional defence, averting the recourse to nuclear weapons and inducing the Soviet Union to resume and carry on the dialogue on the balanced reduction of all war arsenals, would be approximately 9-10 billion dollars, comparable to that required for strengthening the theatre nuclear forces; a cost that the Nations of the Alliance could afford by raising from 3% to 4% the increase of the military budgets.

As can be noticed, there is no lack of points of contact between the Allied Supreme Commander's thought and the

British combat vehicle MCV 80. Equipped with an aluminum armour, this vehicle can reach a speed of 75 km/h, is armed with a 30 mm gun and a 7.62 coaxial machine gun, and can carry 10 men, including commander, driver and gunner.



Airland Battle doctrine, but there are also differences, the most fundamental of which is that the attack to the enemy's follow-on echelons is carried on exclusively with fire. In order to clear up all misunderstandings, for those who mix the cards, either in good faith, for lack of specific knowledge, or in bad faith, in order to attribute to NATO the insane intention to invade the territories of the eastern bloc at the first sign of hostility, Gen. Rogers has solemnly stated in the mentioned article on the "Strategic Review" (11) that the concept of a fire attack against the conventional forces of the Warsaw Pact has no identity with the Airland Battle and, even less, with the futuristic Airland Battle 2000.

The first is a multinational product particularly related to the European problem, while the second is an official document meant for the American Army – conceived bearing in mind the world responsibilities of the U.S. – which entails provisions that cannot be applied for the deterrence and defence aims entrusted to the Allied Command in Europe.

SIGNIFICANT UNOFFICIAL SCHOOLS OF THOUGHT (12)

- *Senator Nunn*, in a report addressed to the U.S. Senate Armed Forces Committee on May 13, 1982, summarized in the "Washington Quarterly" and on "Survival", accepting the thesis that it is necessary to diminish the importance given to nuclear weapons and, for deterrence purposes, to strengthen NATO's conventional forces, contends that this goal can be reached through new initiatives. Among these he mentions the use of advanced technologies, the updating of the operational doctrine and, what seems more original, a better employment of the forces for territorial defence and the considerable European reserves of trained personnel. These resources, increased and properly organized and equipped, could prevent the Soviets – but he does not say how – from keeping the territories initially conquered.

- *Gen. (ret.) Steven L. Canby*, shows his scepticism about attacking the second echelon units with special munitions, because every attempt to acquire a technical superiority is subjected – due to the inevitable advancements, within shorter or longer terms, of the other party – to the law of decreasing performance and then leads to a spiralling quest for more and more sophisticated means, the cost of which must be offset by reducing the size of the forces. He affirms that the military inferiority of the West is not so much due to the insufficient financial resources as to the scarce fighting forces and to the adoption of operational concepts founded on linear defence supported by fire, but lacking substantial reserves. For him the crucial problem is not that of attacking the second echelon units and preventing a break through

the advanced lines, but rather that of neutralizing any penetration through these lines. Joining the thesis of Sen. Nunn, Gen. Canby therefore maintains that by employing the forces that each country has at its disposal for its territorial defence, by creating new types of lightly structured standing units for the defence of the advanced positions, by improving the ratio between the men who actually fight and their logistic support, it would be possible to increase the size of the operational reserves, without altering the present financial allocations. Going well beyond Sen. Nunn, he concludes that the conventional parity would allow NATO to overcome the Warsaw Pact in military power, profiting by the historical, geographical, political and human advantages that it enjoys.

- *Prof. Samuel P. Huntington* of Harvard University, in a conference held in the summer of 1983 at the U.S. Army War College, maintained that the role of deterrence and – failing that – of direct action, today entrusted to the binomial "conventional forces - nuclear weapons", can very well be given to the former only, on condition that these be increased – but not necessarily to reach parity – and employ a different strategy which should include – and this is the thesis' central and characterizing point – also retaliation, in the form – in case of a Soviet attack – of a rapid counter-offensive in Eastern Europe. According to the American scholar, this would not



Launcher for SA-4 "GANEF" antiaircraft missile system. This Soviet-made weapon system, in service with the armies of the Warsaw Pact countries, consists of 3 tracked vehicles on which the launching ramps, a search/acquisition radar, and a guidance radar, are respectively located.

be in contrast with NATO's defensive nature, because if the legitimacy of the nuclear first use or retaliation is admitted, one does not see why a classic retaliation should not be accepted.

CRITICAL EVALUATION OF THE AIRLAND BATTLE, THE ROGERS CONCEPTION AND THE UNOFFICIAL SCHOOLS OF THOUGHT

Keeping in mind that the various doctrines, conceptions and schools of thought summarized in the preceding paragraph, though each has its own individuality, show various analogies, we shall make a survey proceeding by concepts rather than by author, hoping to avoid repetitions and to develop a more easily understandable discussion.

CONVENTIONAL DETERRENCE AND RETALIATION

The conventional forces have always been regarded as means of deterrence and, failing this, of direct action. After the appearance of the nuclear explosive, that has taken a preponderant rôle in deterrence with the expectation, lately become less credible, that later it would participate in the direct action. It is rather unlikely that the traditional instrument will be again the only factor of deterrence, especially vis-à-vis a possible enemy which, like the Soviet Union, has adopted a military doctrine that considers as normal the employment of nuclear tactical weapons. At present, and until a bilateral and verifiable ban of all nuclear energy meant for war purposes is achieved, there cannot be deterrence without the simultaneous availability of nuclear energy in all its forms, together with conventional weapons. Of the former first of all, because a denuclearized West, or a West in a state of evident inferiority, or not able to clearly show its willingness to respond to a nuclear attack, would be an easy prey to blackmail and would give up its freedom without having even defended it.

In its turn, the conventional retaliation, besides appearing an operational nonsense, does not seem consistent with the Alliance's character, with our constitution as well as with that of other European countries, and with the present social environment.

The North Atlantic Treaty was born with exclusively defensive aims; its "morality" and force reside in this. While in art. 11 the contracting parties undertake, in conformity with art. 51 of the U.N. Charter, to settle by peaceful means any international controversy in which they might be involved, art. 5 – which establishes the obligation of mutual assistance – says that this will become operative in case of an armed attack against one or more of the signatories, in Europe or in North America, while art. 6 stresses that such an attack must be directed against the territory of one or more member countries, or against the forces, ships or aircraft of these nations, located in the abovesaid territories, in the Mediterranean or in the Atlantic, to the north of the Tropic of Cancer.

Our Constitution, at art. 11, is even more explicit in repudiating war as an offensive tool against the freedom of other peoples and as a means to solve international controversies (13).

Given these premises, one does not see how the NATO authorities and the individual national governments could endorse a counteroffensive carried out on East German territory – this is the actual point – at the first concrete signs of attack by the Warsaw Pact, considering that, before a situation of deep involvement between the opposing forces is created – i.e. a situation of no-return – there remain ways open for a diplomatic settlement; and NATO's political and military authorities had indeed these possibilities in mind while

conceiving and adopting the strategy of flexible response: even the author of this article does not question the conceptual validity of this strategy, but rather its limits of applicability. On the other hand, the pacifist movements of the most varied descriptions, which in good or bad faith condemn not only the nuclear weapons but war per se, even defensive war, would have every good reason to cry shame if the first signs of aggression were retaliated with massive counteroffensive; and they would also have the tools for undermining the unanimity of consent, which is the prerequisite of a serious military engagement.

Let us dwell a little longer on the operational aspects of retaliation, which are the most pertaining to a specialized review such as ours, also for the influence that this subject will have on the discussion on the Airland Battle.

Since the purpose of war is to force the enemy to change his intentions, be they aggressive or defensive against an aggression, it follows that, if the political means fail, and in order to deprive the enemy of his fighting possibilities, the only choice left is to destroy – or at least seriously undermine – his material power. According to the experience in almost all wars, the best way to do this is to go to the enemy's place and occupy his territory for a while – or at least control it strictly – in order to make sure that he complies with the terms that have been dictated to him.

One can therefore affirm that war, in order to reach its aims, must be fundamentally offensive and that the defensive attitude, apart all considerations of political, constitutional and moral nature, is suggested by the awareness of being weaker, and by the hope of gaining strength by gaining time. In substance it is a delaying manoeuvre, which tends to achieve the conditions necessary to start a counteroffensive. In order to assume an offensive attitude, initial as well as successive, one must be certain that he is stronger than the enemy, so strong as to neutralize the factors (knowledge of the terrain, fire planning, battlefield fortification and, within certain limits, the depth in which to move) that traditionally operate in favour of the defender, and to make up for the wear suffered by an operational instrument that advances while fighting.

NATO neither has this superiority, nor wishes to have it, because its member nations pursue different and nobler aims other than threatening the freedom of other peoples and if, for an absurd hypothesis, NATO were to decide to reach it, it would be useless to dream of immediate offensive or counteroffensive designs, because the mere possession of this superiority – supposing that the opposing side did not react, with the consequent spiralization of the conventional armaments also – would be an element of deterrence against the enemy's aggressive intentions, with the same value of nuclear superiority or nuclear parity.

THE MANEUVERED ATTACK AGAINST THE SECOND ECHELONS AND SECOND ALIGNMENTS OF THE WARSAW PACT

We regret to have to observe that the maneuvered attack against the rear forces of the Warsaw Pact, which we in Italy call more properly "counter-attack", goes against the fundamental canons of tactics, as much as the conventional retaliation is, to say the least, a strategic nonsense. It is even more regrettable in that the FM 100-5, Ed. 1982, which embodies the Airland Battle, wants to be a return to the origins and to the traditional principles of war. It is true that the publication is meant for use by the American Army, but nothing prevents us from thinking that, lacking a set of norms of employment common to all NATO Armies, the Commanders of the U.S. Major Units, from Brigade to Corps, using the autonomy they are granted at their level (especially at the second level) may be tempted to apply it, endangering the manoeuvre of the higher Major Units, Army and Army Group, which could hardly reconcile two substantially different actions, such as arresting the aggressor and carrying out a dynamic reaction beyond the line of contact.

But there is more than that. The counterattack, be it led by a combat group at Battalion level or by an elementary Major Unit (Brigade) presupposes the not fortuitous but planned occurrence of various conditions, first among them the creation of a favourable proportion of forces at the place and time chosen, the temporary stopping of the units to be counterattacked, in order to avoid finding a situation different from the expected one, and the encirclement by fire of the terrain of the action, in order to prevent the inflow of other enemy forces. It is evident that such conditions can be rather easily achieved inside a defensive position, but are almost unrealizable beyond the contact line, in the mesh of the enemy organization. How can the second echelons and the second alignments be stopped? Long-range fire (land or air) alone could not be enough. How can the flanks of the units which, while counterattacking, "dive" into the middle of the opposing deployment be protected? In-depth formations and fire may not be sufficient. And how can the attacker be prevented from moving the not yet engaged units to the threatened point, in order to cut short our penetration and neutralize it? And why should we suppose that the Soviet forces, mainstay of the Warsaw Pact, have a manoeuvring capability inferior to the West's? The current opinion is that in the lower ranks of the Soviet chain of command there is lack of spirit of initiative, but no one doubts that the higher Commanders are well acquainted with the art of warfare and are able to employ to the best advantage the powerful military machinery at their disposal.

A study on the battle formations of WWII shows that the Red Army



applied the principle of echelons in a variable and most flexible way, according to the enemy defence's characteristics. As a consequence (14) the in-depth counterattack force could run the risk of remaining on its positions, waiting for the information organs to find out the possible location of a hypothetical second alignment, while the enemy, having eyes to see and brains to make evaluation, would have the

Above.

Soviet MIG-23 "Flogger" multi-role fighter while landing. Equipped with variable sweep wings, this aircraft can reach a speed of Mach 2.3 at an altitude of 12,000 m, and has a 1000 km range. The MIG-23 is armed with a 23 mm gun and can carry - on its belly and wing mountings - a remarkable war load.

Left.

105 mm. Italian howitzer. The gun weighs 1,290 kg in travel configuration, is employed by many NATO countries and has a maximum range of 10,500 m. It can be air-dropped, and disassembled to be transported by pack-mules. It is currently in service with the Italian Army, in the paratroop artillery and mountain artillery units.



possibility to ward off the threat, assembling his rear units in the appropriate way and conveying them behind the advanced echelons, or among them, on the defender's weaker points. Such tactics, embodied in the creation on the spot of operational groups of manoeuvre, were successfully employed by the Soviets, both during the revolution and the second world conflict.

And is it worthwhile, in a condition of general inferiority, to risk more or less substantial portions of a "battle corps" in actions of uncertain outcome, if not doomed to certain failure?

These questions and considerations entitle us to believe that the application of this action in the NATO theatres of operation is problematic, for the moment at least, and Gen. Rogers did well in dissociating himself from it. Besides, as I said before, the action has been conceived having in mind hypothetical employments by the U.S. Army, within a global vision of its tasks, and, above all, with the aim of giving a jolt to a mentality which had become too conservative, due to the Vietnam syndrome.

We Italians, who in the Sixties had included in our operational regulation, publication no. 700 on the "Employment of Complex Major Units", an action somehow similar to the one discussed above, but with more limited purposes and easier to carry out (a preventive counterattack, to be launched in the enemy territory, once the imminence of an attack was ascertained, with the purpose of disorganizing and weakening the instrument of the enemy, forcing him to repair the damages it had suffered and to start again his preparations). But, in the successive doctrinal guidelines, we have given it up, both because the game was not worth the candle and because it could be instrumentally exploited politically.

LONG-RANGE FIRE ACTION

The long-range fire action supported by Gen. Rogers – which is intended to inflict losses to the second echelons of the Major Units in the first alignment and to the Major Units in the second alignment, and to slow down their movement, in order to hinder the supplies that the attack needs to keep a quick pace – is nothing new, and the Allied Supreme Commander knows it well, despite the noise that is being made about it.

The action was made possible by the invention of the exploding shells fired from the first artilleries, and its importance has been increasing together with the range, the single-shot power and the firing cadence. At present, besides the traditional guns, also missiles, saturation weapons and air forces take part in it.

Distinguishing the action as *close* and *distant*, according to the depth of the objectives, we call it *interdiction*, which is defined by our "Nomenclator" as a "fire action meant to prevent or at least hinder fire, movement and tactical/logistic supply, as well as the



action of command and control of the enemy", while *air interdiction* is "an operation of tactical air support to land operations, with the purpose of extending, deep into the territory under enemy control, the effects of the battle. It intends to destroy, isolate and neutralize enemy forces and means, and to delay their employment, by preventing, or at least hindering, his movements, his supplies and his action of command".

Our employment regulations have always given an important role to interdiction.

Already in publication no. 600 of 1958, which sets us among the first Armies that have taken a position as regards the incidence of the nuclear factor on land operations, it is written that "the artillery constitutes the most flexible, inexpensive and timely means available to the Commanders of Major Units for conducting a battle", and that "long range interdiction tends – together with the tactical air forces' action – to prevent or hinder the supplying of the battle".

Publication no. 700, which in 1963 replaced no. 600, deals with this subject in several paragraphs, among which we mention:

- 13, which affirms that the defensive operations must be based, among other things, on the interdiction of the enemy

lines of communication and on the disorganization of his logistic potential;

- 25, which stresses how the firepower of today permits to obtain rapidly major results, but adds that – nevertheless – success cannot be pursued with fire alone;

- 277, which, referring to the tactical air forces, specifies that interdiction permits to isolate the battlefield and paralyze – or at least hinder – the inflow of the enemy, and the operation of Commands;

- and finally paragraphs 328 and 330 which, dealing with the activities of the Army Commander and Corps Commanders during the conduct of the battle, state that the former conducts on his own the actions of interdiction in depth, carried out with aircraft and/or missiles, aimed at destroying or neutralizing the enemy to the furthestmost distance, de-a position to interfere, with the battle's development, while the latter employ the fire at their disposal to wear the enemy to the furthestmost distance, depleting its logistic and tactical supply, and to strike with maximum timeliness the adversary concentrations, especially the armoured and mechanized ones, whenever they materialize.

Publications no. 800, which in 1971 replaced no. 700 and no. 900, which



Italian Army paratroopers in simulated combat in a built-up area. They use a 106 mm recoilless gun, mounted on a AR 59 recce vehicle. This gun is now being replaced by more modern weapons.

replaced no. 800 in 1977 (and is still in force), move along the same lines.

General Rogers, the representative of a nation which after the last war has given its imprint to the most significant scientific advances and their employment for war purposes, has the great merit of having understood the contribution that a long range fire action could receive from longer range ground launchers, from the study of a new type of ammunition and from applied electronics.

One of interdiction's weak points was in fact the time that elapsed between the location of an objective and the firing of the shells: a time that penalized its performance against moving targets and enhanced it against fixed targets. The progress in electronics will nullify this harmful difference and will permit the acquisition in real time of the objectives, while the modern fire control centres, also being perfected now, together with the automatic loading sys-

tems, will speed up both the starting of fire and the firing cadence.

But, as every medal has its reverse, also the long range fire action has a cost that cannot be overlooked, due both to the sophisticated devices needed for increasing its effectiveness and to the huge amounts of ammunition it requires.

And, moreover, let us not delude ourselves thinking we have found a panacea against the conventional superiority of the Warsaw Pact. First of all because the Soviet Union and its satellites have the fire sources necessary for striking our reserves and the technical capability to make the same progress we make, thus reestablishing the "status quo ante". Secondly, because fire alone has never solved anything. It is valid and multiplies its effectiveness if it is included in a contest that permits and enlivens the manoeuvre.

In 1917, after the Caporetto rout and our retreat on the Piave river, the Austro-German forces, emboldened by success, decided to give us the coup de grace. That was the first battle of the Brenta and Piave rivers (15), better known as the battle of arrest, which was fought fiercely from November 10 to December 25, from the Stelvio pass to the lake of Garda, from Garda to the Brenta river and on the Asiago plateaux, from the Brenta to the Piave, over Monte Grappa, which has since then become a legend, and along the Piave down to the sea. Thirtythree Italian Divisions, 19 of which were sorely tried by the retreat, with 3000 guns, faced 55 Austrian and German Divisions with 4500 guns, under the direct command of the Emperor. Behind, we had almost no reserves and the French and British units, that were sent to Italy to support us, joined the battle – and only partially – when the outcome of the battles was already in our favour. The manoeuvred fire did indeed have its effects but it was mostly the infantry, with its weapons, its counterattacks, its obstinacy, that shattered the Hapsburg dream of spreading over the Po Valley. Marshal Caviglia, one of the protagonists of the First World War, in his chronicle of that battle, wrote "our infantry, alone against the Austrian and German infantry, placed itself with honour among the best in the world".

Some months before, in April, the offensive of the Aisne had failed, with heavy losses and the complete collapse of the French Army – which had been unable to take other initiatives for the rest of the year. The offensive had had the purpose of moving the battle again in the open field and was launched with great abundance of men (4,500,000 against 2,700,000) and means (8,000 guns, with a density of 1 gun every 8 metres). Gen. Nivelle, who at the end of 1916 had replaced Gen. Joffre, paid with his dismissal his excessive trust in the artillery fire, thanks to which breaches had been indeed opened in the advanced trenches, but this had not prevented the Germans from closing the breach by occupying the rear positions. And yet there had been intuitions – and

this is confirmed by the employment of the first rudimentary tanks – that the problem was to reach a speed of progression higher than the enemy's speed of recovery. The Germans understood it well and drew the proper conclusions, which led them to mould that formidable war instrument, based on power and pace, which 20 years later imposed its law during the first part of the second world conflict.

THE INCREASE OF RESERVES

The availability of tactical and strategic reserves, in adequate quantity and well deployed – the former, oriented to reestablish, by counterattacking, the integrity of the position, the latter to cut and destroy any penetration from the rear of the position itself – has always been considered an indispensable factor for the success of a defensive manoeuvre. NATO should increase its reserves; there is no question about it. The problem is, with what modalities. It does not seem realistic to use for this purpose a fraction of the forces destined to the defence of the territory. This could have been done, perhaps, by France in Central Europe, had it not left the Alliance's military organization, and we do not know whether such a measure is foreseen in the operational planning of that country in the event that – in case of emergency – the French forces were reintegrated in the allied organization, automatically improving its conditions of inferiority, which would allow the transition in reserve of the other partners' units that are now advanced. We are not in a position to do the same and, moreover, we do not need it so much, because the present situation around the Mediterranean advises against reducing the protection of peninsular and insular Italy in favour of the Veneto-Friuli area.

We also deem fanciful the idea, which has also found followers here, of improving the proportion of forces by setting up a certain number of so-called light formations, either already in peacetime or through the mobilization of instructed reserves. The term "light" makes one think that in the mind of the supporters of this thesis there should be other units having a heavy structure. Such distinction has no foundation at the present stage of the battle techniques. Let us take, for example, infantry, which is still one of the protagonists of the battle: both when it operates in particular geographical environments, such as the "Alpini" or the "Lagunari", and when mounted on armoured vehicles (tracked and, in the future, also wheeled) it operates in close connection with tanks – and this is the mechanized version – as well as when, transported on vehicles, it can rapidly cover great distances – and this is the motorized version (the poor relative, for economy reasons, of the preceding one) – in order to effectively carry out its tasks must be able to avail itself of complete armaments and equipment, of the best possible quality. The paratrooper units

themselves, owing to the progress made by the launching devices, are not different from the other branches of infantry. And all of them need the support of artillery, engineers, communications and logistics.

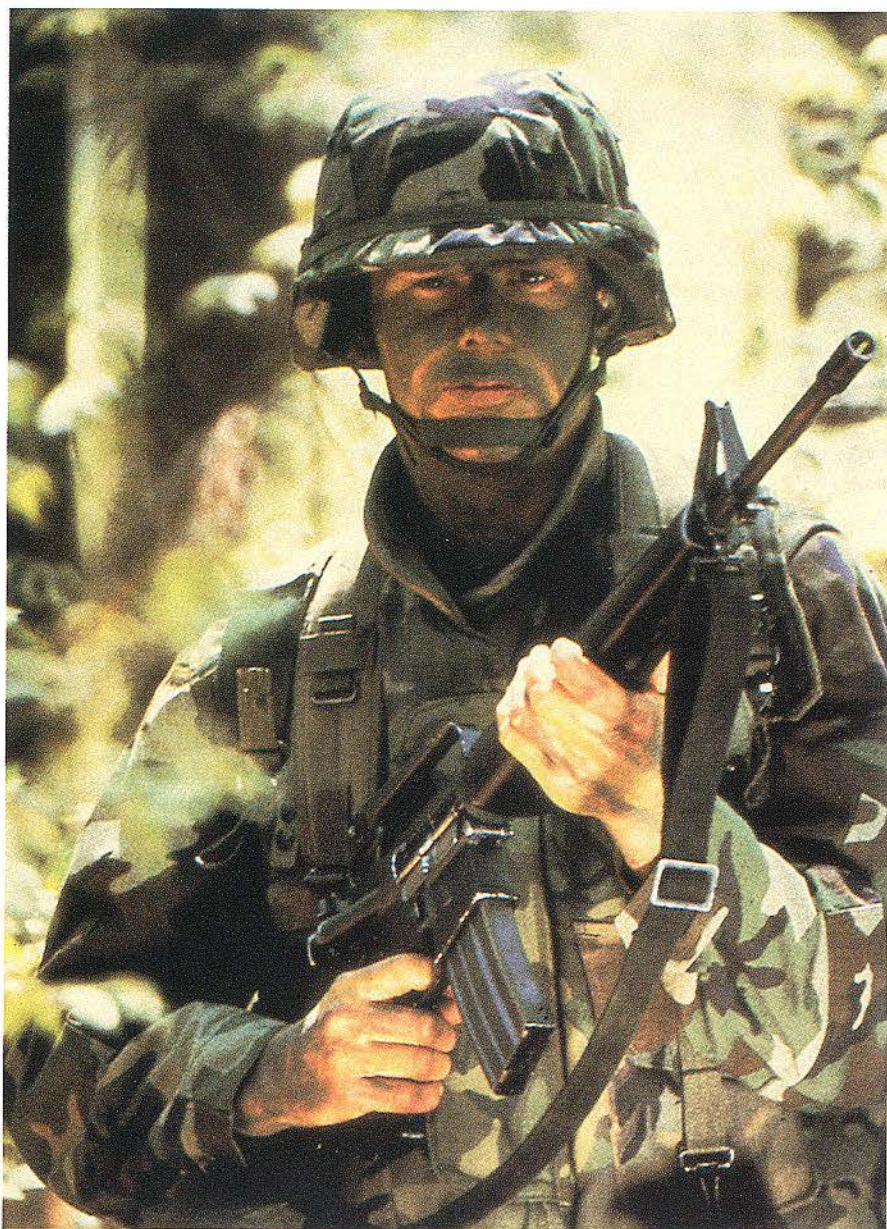
Regarding the possible establishment for mobilization of these supposedly light formations, it would anyway be necessary to supply them with the required equipment, keep them in good shape with expensive controls and maintenance, periodically renew them to keep up with the times, call up the reservists frequently (with more expenses) for refresher courses, without taking into account the time required for assembling the men recalled as well as for their moral and training amalgamation. A time that could be incompatible with the urgency of the need. At this point, it would be better to strengthen the already existing forces, maintaining their organizational levels, filling the shortages that afflict them and replacing the obsolete materials at the appropriate times. It would be a good step forward on the long and difficult way we have to go in order to reduce the conventional "gap" that separates us from the Warsaw Pact.

GUERRILLA WARFARE

It is an idea regarded with favour in some political circles, which are probably influenced by the myth created in Italy about the Resistance in the years 1943-1945, and which are certainly little informed about the characteristics of this form of warfare and the conditions required for its organization and development.

I am well aware that I am going against the present trend when I say that although the Resistance did have a very high moral significance, being the expression of the Italians' will to resurge, its contribution to the liberation of our country was not determinant. Italy has recovered its sovereignty thanks to the Anglo-American troops and with the generous and largely voluntary contribution of that part of our Army (the First Motorized Regiment, the Italian Corps of Liberation, the Italian Combat Groups) which, overcoming mistrusts and difficulties of all kinds, was capable to abide by its oath, showing once more that the Italian soldier is second to none when he fights for a just and heartfelt cause. Gen. Li Gobbi, a hero of the Resistance, and therefore "above suspicion", has complained (at the end of 1984, in a speech celebrating the battle of Montelungo, in which – before the astonished eyes of the Allies – so many fine Italian youths sacrificed their lives) that the merits acquired by the Italian Armed Forces in our country's moral and material resurgence have not been adequately acknowledged. I cannot but agree with him.

As for the features of guerrilla warfare, I have dealt with them in a study published on no. 1/1968 of the War College Review "Alere Flammam", to



which I refer the readers willing to probe into the subject (16).

As I wrote on these pages in 1980 (17), it is my wish to stress that:

- guerrilla warfare has always been, with some particular exceptions, a follow-on procedure: i.e. it presupposes a previous invasion of the territory by foreign forces;
- also the people's war, no less than the traditional one, poses – if one wants to predispose it – serious organization, training, logistic and execution problems;
- the guerrilla warfare not organized in advance and, in the long run, also the predisposed guerrilla, needs, in order to survive and operate, recognition and help from the outside, for – without these – it would be forced to leave the areas economically and demographically more significant, on which the army of occupation could better make the weight of its power felt, and take shelter

in isolated and impervious zones, having scarce influence on the general goals to be reached;

- the ideological differences, typical of some democratic States, would rapidly undermine the moral unity which is the foundation of a type of struggle that, not being able to lever on material factors, has the absolute need to have, within itself, unity of intents and spirit of solidarity and, from the outside, the widest support of the local population; but a support that must come from consensus and not from intimidation;
- in case of geographical areas of outstanding strategic value, the party opposing the occupants will try, sooner or later, to ensure their possession, starting military operations, the brunt of which would be taken by the civilian population.

Do we really want that Italy, renouncing the possibility of a direct

Left.

U.S. infantryman wearing the new combat uniform. The U.S. Army is issuing this outfit, consisting of camouflaged uniform, helmet made of composite material, and bulletproof vest. The infantry squads will shortly adopt also a 5.56 mm automatic weapon, the "Improved M-16A2".

Right.

Paratrooper armed with a dual-purpose 7.62 mm MG 42-59 NATO machine gun, in simulated combat. The NATO armies will shortly replace the 7.62 NATO individual arms with more modern 5.56 mm weapons.

defence, enhanced by the nobility of the goal it pursues, should become once more a battlefield for foreign troops and experience again the horrors of factions, hatreds and civil war?

CONCLUSIVE CONSIDERATIONS AND PROPOSALS

- The present debate on the NATO military strategy must be considered an extremely positive fact. It is from the intelligent and constructive comparison of ideas – not empoisoned by factiousness – that the best is born. Also worthy of respect are the trends that do not seem to take into sufficient account the hard reality of war or that seem projected towards a not well defined future. History demonstrates that in all fields of political, artistic and scientific thought even the most extremist trends, which have caused – and cause – disapproval, have borne – and will bear – their fruit, because, having freed themselves, along the road, of the most heated accents, they have contributed, accelerating it, to the incessant ascension of mankind.

- The nuclear weapons which, among fiery protests, have nevertheless given the world at least 40 years of non-general war, – if not of peace – remain a powerful tool of deterrence, provided that neither of the two opposing parties attains such a superiority over the other as to induce the more exposed countries to assume a yielding behaviour, ending up in a subordinate condition. Once the theatre capabilities are balanced again – as is being done – it will be necessary to resume the talks for a balanced and surely verifiable reduction of the nuclear arsenal, as a premise for its elimination, with the twofold aim of freeing mankind from the anguish of a possible disaster and to convey the resources thus spared to the fight against hunger and to the civil promotion of all peoples.

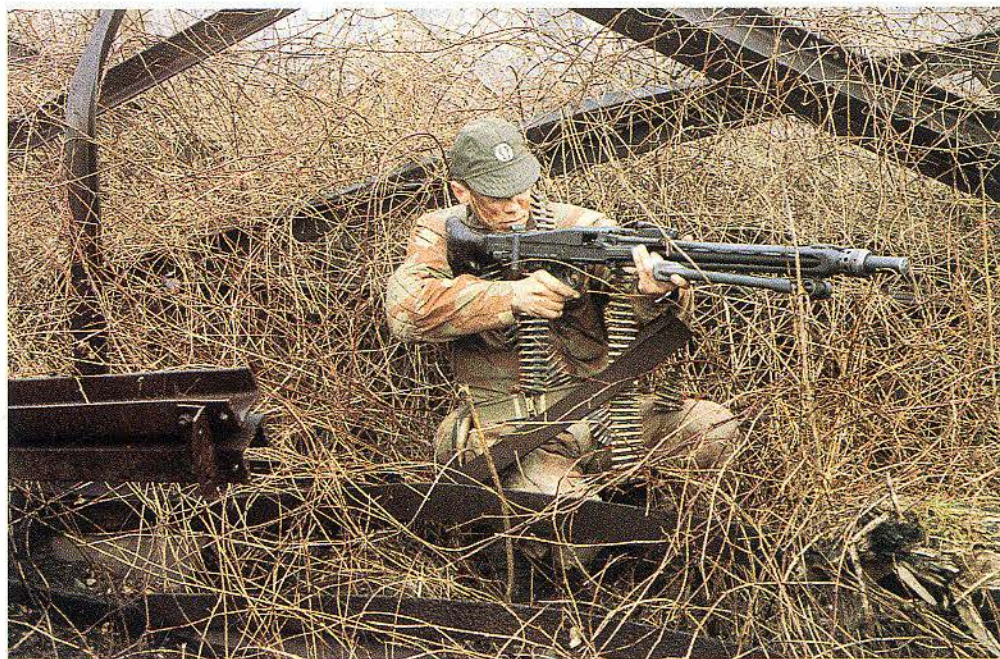
- The intention of being the first to use the nuclear weapons in the framework

of a gradual and flexible response, does not increase the defence capabilities of NATO; on the contrary, it weakens them, because it gives us the illusion of a capability of resistance that we do not have and prevents us from facing with realism the actual problem, which is the strengthening of the conventional component and the revision of the operational doctrine.

This does not mean that the use of nuclear weapons should be totally excluded. It is necessary, instead, to foresee and plan it, both to answer a possible, although unlikely, enemy initiative and to demonstrate with a single "warning" explosion, as "clean" as possible, on an uninhabited territorial objective, our firm determination not to yield to arrogance, as well as – finally – to induce the Warsaw Pact, for fear of

We must not believe, however, that a lasting advantage can be derived from it. The Soviet Union has the capability to do the same, sooner or later; but this race towards the "more and more sophisticated" which would furtherly lower the already low living standard of its people could lead it to desperate extreme solutions. The U.S. decision to carry on with the so-called "Star Wars" project exposes us to the same danger. And, probably, in the impossibility on the Soviet Unions' part to accept the scientific challenge a serious – and not enough felt – danger for the peace of the world is hidden.

- As passive defence has always ended in failure, the NATO operational doctrine ought to evolve, in the observance of laws and principles that give meaning and logic to the art of warfare, towards

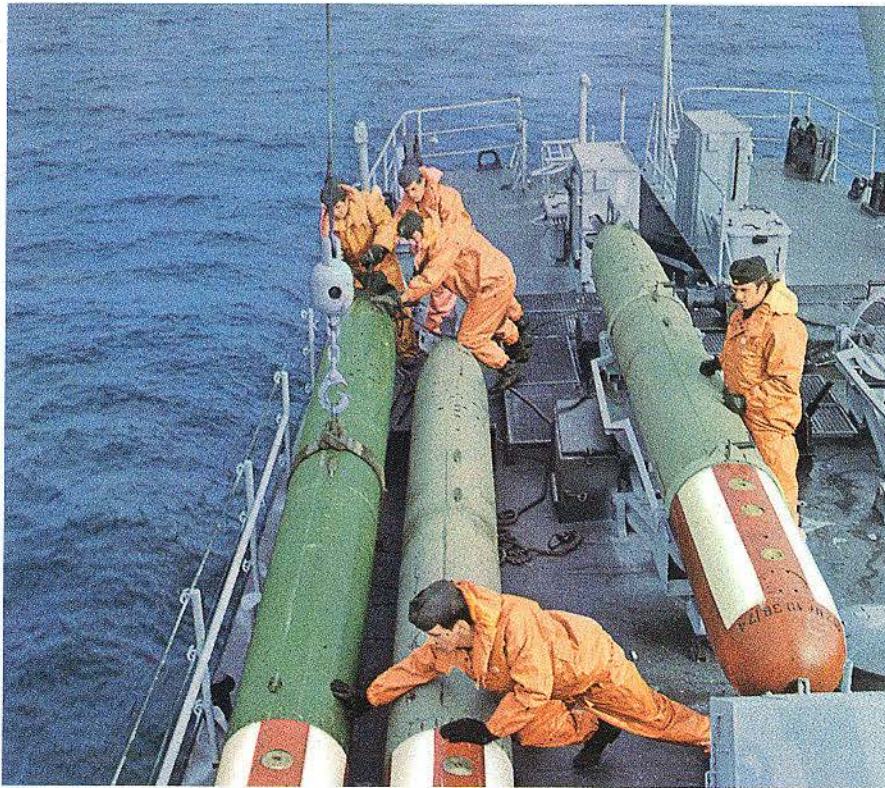


other nuclear strikes, to keep the mesh of its attack instrument loose, forgoing, within certain limits, the concentrations of power that are the prerequisites for a massive and swift offensive.

- The improvement of NATO's conventional power – awaiting that a balanced reduction is reached also in this field, either within the global negotiations on armaments or separately, as it seems more logical, which presupposes an increase of the national appropriations consistent with the other goals pursued by the Western countries – will strengthen both its deterrence and its capability to resist an aggression. The increment of the long-range fire, whose concept is not new, if one excludes the technologies that can already be foreseen, will contribute to this improvement, on condition that this does not go to the detriment of other power factors (mobility in its various forms, antitank and antiaircraft defence, logistic support).

a more and more maneuvered employment of forces, excluding the untimely advances at the heart of the enemy instrument of attack – which would lead to a doomed battle of encounter – in favour of a stubborn resistance, but not only a stationary one – in the forward part of the defensive position, combined with long range fire, in order to allow the Major Units' Commanders enough time to locate the Warsaw Pact's effort axes and to convey adequate sectorial reserves – supported by the strategic reserve according to necessity – towards penetrations to a depth that must be assessed without patriotic prejudices.

It is at this stage of the battle that beyond-the-border counteroffensive answers could be envisaged, both for re-establishing and possibly improving the former situation and for obtaining useful territorial pawns, as well as – finally – for creating a climate of insecurity in the Soviet Union, concerning its satel-



The crew of a torpedo-boat of the East German Navy preparing for a launch.

lites' reliability, so that it will have to remove forces from the front in order to ward off any possible internal disturbance.

In a type of defence which emphasizes and enhances manoeuvre at all levels, we can write down among our assets the cadres' higher spirit of initiative and the moral impulse that always multiplies the energies of those who are conscious of fighting for a just cause.

It would be most timely for the Allied Supreme Commander to promote the study of standards of employment, or at least of employment directives at Corps, Division and Brigade level, valid for all the forces under his authority. In this way the interoperability of the units of different countries would be enhanced and a possible incompatibility between the SACEUR conception (18) and the national doctrines would be avoided. It goes without saying that every army would be free to retain its own doctrine and to follow it in the engagements outside the Treaty area.

NATO has indeed already felt the usefulness of reaching standardization agreements, but while very good results have been obtained in the field of procedures with the STANAGs (19) and in that of the organizational structures, I am not aware – unless recent progress has been made outside my knowledge – of advances as regards procedures of employment (even though in the Sixties there have been discussions, on this subject, within regional groups such as FINABEL) (20) and materiels, where the national economic interests have prevailed, permitting bi- or multinational

studies and realizations only for a few weapon systems.

I do not deceive myself thinking that the criticism I have made and the suggestions I have advanced will meet the approval of all my readers, but I should consider myself content if, by inciting reflection, I shall have contributed to widen a debate of fundamental importance for the security of the West and the peace of the whole world.

Lt. Gen. (ret.) Luigi Salatiello

NOTES.

(1) Mc George Bundy, George F. Kennan, Robert S. Mac Namara and Gerard Smith in "Nuclear Weapons and the Atlantic Alliance", Foreign Affairs, Spring 1982, pages 753-768.

(2) "Euromissiles, Neutron Bomb, NATO Strategy and the Situation of the Italian Army", Rivista Militare, no. 2/1982 (Italian edition).

(3) Readers wishing to probe into the subject are referred to the excellent article "The Airland Battle" by Lt. Col. Maurizio Coccia, published in the issue 1/1983 of "Rivista Militare" (Italian edition) and to the even more outstanding article by Robert A. Gessert "L'Airland Battle et le nouveau débat doctrinal dans l'OTAN", published in the July 1984 issue of "Defense Nationale". The latter has been a precious help for me, when writing the paragraph devoted to Airland Battle in this essay.

(4) I refer, as also R. A. Gessert maintains, to the possibility of obtaining effects almost equivalent to those of small nuclear weapons, thanks to the combination of the launcher's precision and the effectiveness of the individual munitions, presuming that our threat of retaliation dissuades the Soviets from resorting first to the nuclear factor.

(5) In our terminology, the Brigade (which is the smallest of the Major Units, also called elementary Major Unit) divides itself up for combat into echelons of the combat group order at Battalion level, that are progressively numbered from the front to the rear (1st-2nd and possibly 3rd). The alignment instead is made up by the Major Units which are deployed for combat on the same line, parallel to the front. Also the alignments are numbered progressively from the front to the rear (1st-2nd and 3rd).

(6) I have read this article in the translation published on "Defense Nationale", July 1984.

(7) "The Atlantic Alliance: prescriptions for a difficult decade".

(8) "Enhancing Deterrence - Raising the Nuclear Threshold".

(9) "Sword and Shield: ACE Attack of Warsaw Pact Follow-on Forces".

(10) "Greater Flexibility for NATO's Flexible Response".

(11) See (7).

(12) Also for the introduction of this schools of thought I refer to the mentioned study by R. A. Gessert.

(13) The Constitution of the Federal Republic of Germany is more peremptory. At art. 27 it condemns not only any action intended to disturb the pacific coexistence among nations, but also the very preparation of aggressive wars, to the point of subordinating to the Government's permission the production of weapons destined to military operations, delegating the enforcing of this principle to a special law (promulgated as "Law for the control of war armaments").

(14) See "La Bataille Aeroterrestre: une Doctrine plus qu'un dogme", by Col. William G. Hanne, published in French in the 8/83 issue of "Revue Internationale de Defense".

(15) The second, fought between June 15 and June 23, 1918 opened the way to the victorious counteroffensive of Vittorio Veneto.

(16) "Guerrilla and Counter guerrilla Warfare, and the Army", "Alere Flammam", no. 1/1969.

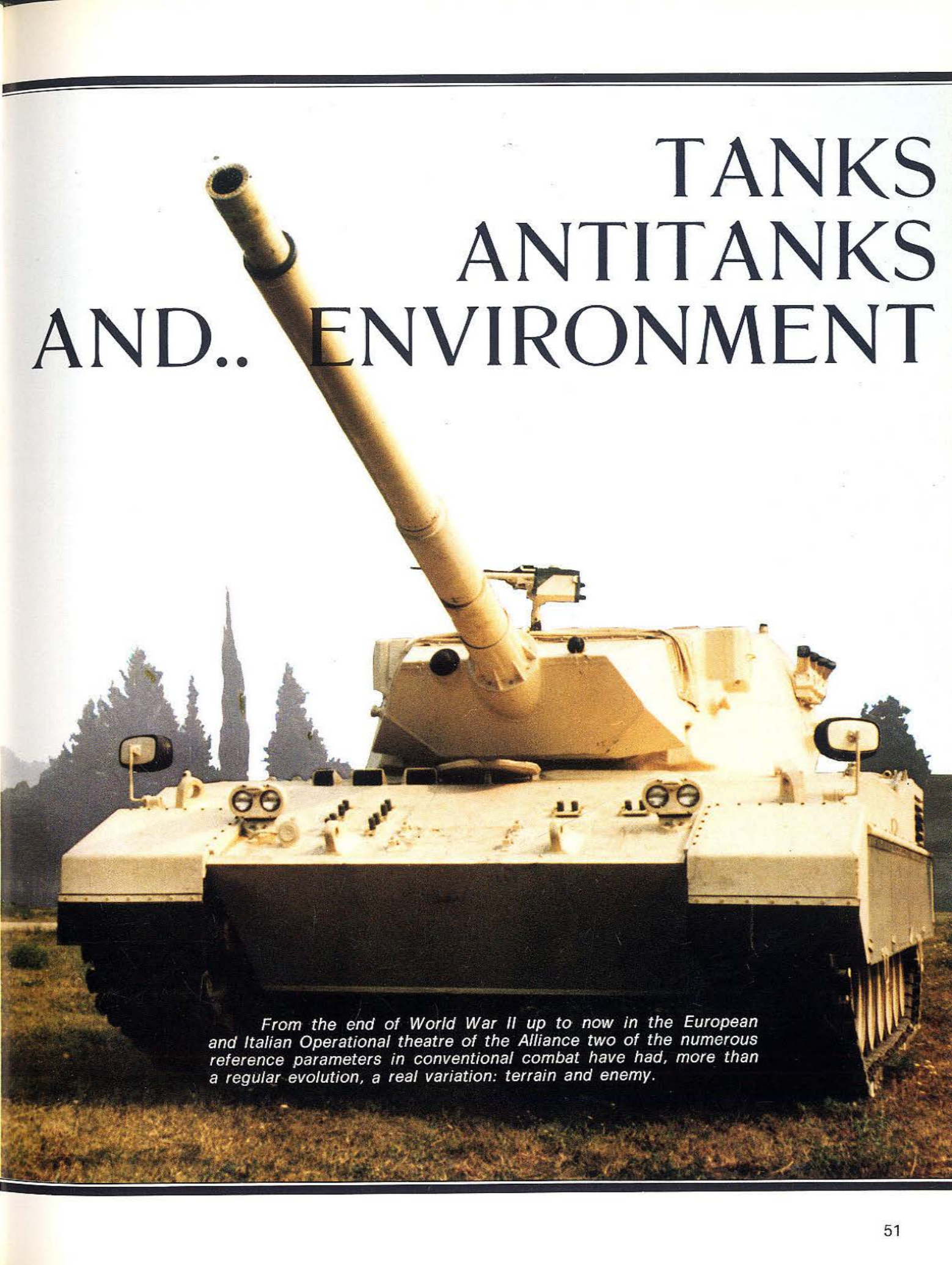
(17) "Advanced Defence", Rivista Militare, no. 5/1980.

(18) Supreme Allied Commander Europe.

(19) STANAG = Standardization Agreement.

(20) A regional Organization formed by France, Italy, The Netherlands, Germany, Belgium and Luxembourg (the name is made up with the countries' initials in French) tasked with the study of the military characteristics of arms and weapon systems, in view of a joint production and, within certain limits, with the definition of the operational framework in which these weapons would be employed.

TANKS ANTITANKS AND.. ENVIRONMENT

A large, modern tank, possibly an M1 Abrams, is shown from a front-three-quarter perspective. The tank is olive drab and features a long, smooth-bore main gun barrel pointing upwards and to the left. The turret is angular and has various sensors and optics. The hull is wide and flat, with two large circular lights on the front. The tank is positioned in a grassy field with a line of evergreen trees in the background under a bright, hazy sky.

From the end of World War II up to now in the European and Italian Operational theatre of the Alliance two of the numerous reference parameters in conventional combat have had, more than a regular evolution, a real variation: terrain and enemy.

- **terrain**, enormously changed by a growing urbanization, man-made structures and intensive cultivations;

- **hypothetic enemy**, oriented to a mobility, firepower and protection development process which since long time has led to entirely armored units.

For these two phenomena the validity of armored units and infantry employment was frequency of antitank weapons capable of guaranteeing the halt quality of antitank weapons capable of guaranteeing the halt and harassment of the enemy advance.

In this context some innovating hints have been given, in order to prime an experimental process that will challenge Cadres and troops in this matter.

The sketch shows the characteristics of a terrain partition hampering the firing and moving capabilities of mechanized and armoured forces.

THE REFERENCE TERRAIN

Most of the operational terrain – especially as far as the action of armored and mechanized forces is concerned – **consists in an alluvial and wholly flat land**, characterized by a limited depth of fields of view – due to cultivations and vegetation – by a consequent emphasized partition, by a large number of minor built-up areas and by small but numerous water courses.

Needless to say, in an emergency these characteristics cannot be altered in a short time by means of important works aiming to improve the observation, fire and movement capabilities.

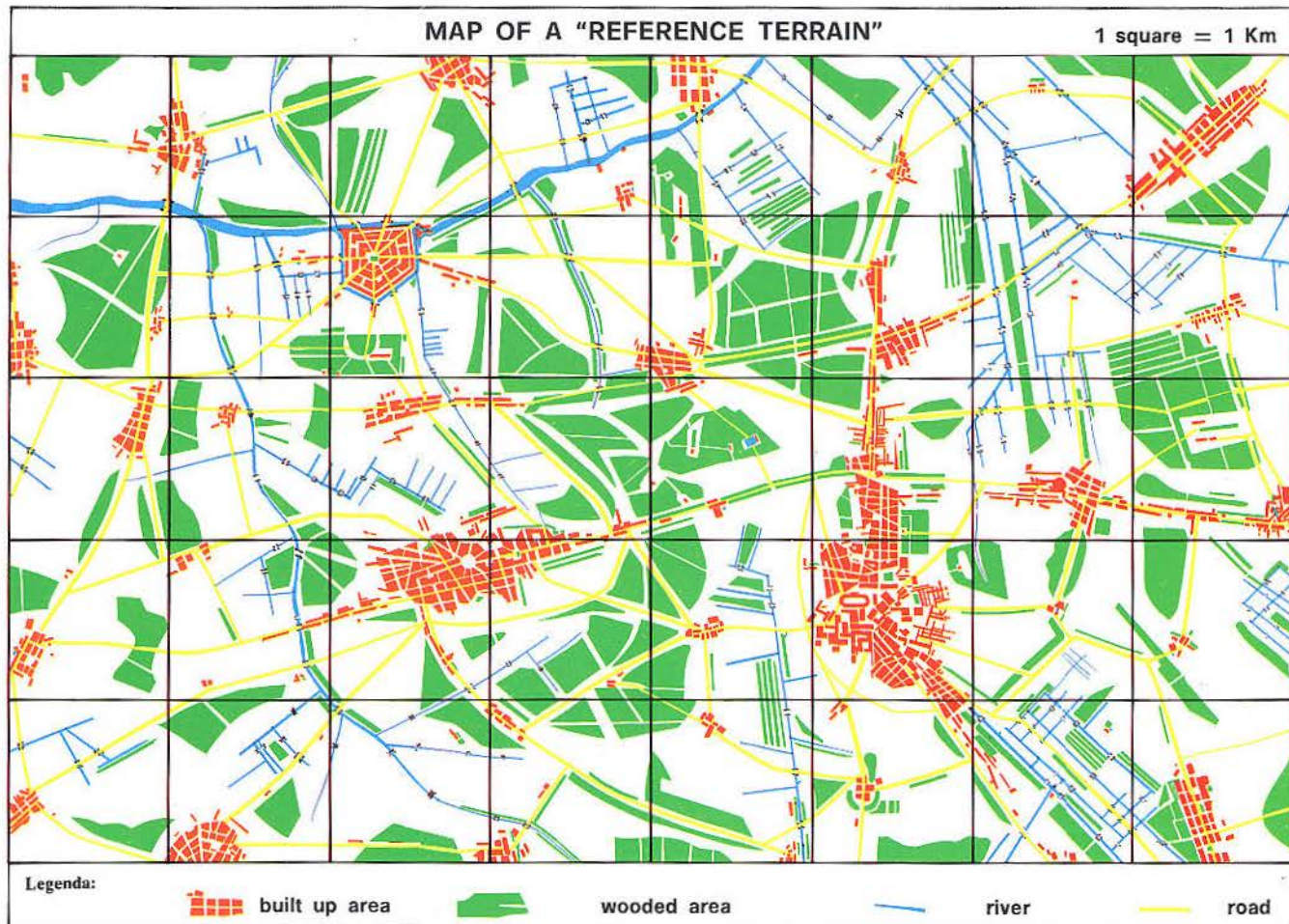
The real intervention limits come from the required technical time and from the combat dynamism which allows the use

of various positions for every unit and weapon.

It is enough to think that to obtain the ideal conditions for deploying one ground emplaced antitank missile launcher it would be necessary the whole working day of a machine capable of knocking down and removing the vegetation in the weapon firing sector.

Our statement is confirmed by the abovementioned map showing the main obstacles in a section of the **reference terrain**, e.g.: **channels** in red, **built-up areas** in blue and **intensive cultures** in green.

Such a natural environment is to be considered normal in **most of the operational assumptions**. In such an environment, the main significance of tanks and antitank weapons in their





particular tactical rôle, as regards the traditional combat against infantry units, should also be considered normal.

The following considerations on the most suitable action choices are to be made:

- The **reduced extent of fields of view** dictates the employment of longer range antitank weapons from higher positions to better utilize the effective range; in any case, it limits the tanks fire power capability.

- The **terrain partition** very often affects not only the realization of the typical defence scheme which is based on the seizure of dominant positions (strong-points) spaced out by stretches of terrain controlled by fire, but reduces also the possibility to use linear uninterrupted arrays (antitank formations).

It follows that "geometrical structures" solutions (circle-line) which we are used to know, show significant limitations.

We should look for **fire integration of different range weapon systems by fitting them to the terrain in a coordinated whole of defensive elements or groups having variable size and structure**, basically as regards the depth of field of view and the range.

Furthermore, the terrain partition will often impose to achieve a higher force density compared to the generally accepted one, to assure the control of the defensive front. On the other hand, in many cases, an effective antitank defense might not require the contemporary employment of all the available weapon systems.

In some situations, for example, the use of longer range weapons might be absolutely

"TOW" antitank guided weapon system. In service since 1970, the "TOW" – tanks to its excellent performance on the battlefield – has become the most common ATGM (Anti-Tank Guided Missile) in the West. It can be fired from the ground as well as from vehicular installations and helicopters. It has a maximum range of 3,750 m and can pierce an armour thicker than 600 mm.

insignificant, with all the consequences in terms of aggregation of forces, deriving by this awareness.

- The **limitations imposed to fire and movement** make very difficult the unitary employment of large armored formations.

The action will tend to split up into a series of events. Their results will be conditioned more by the decisional and operational autonomy of the minor units commanders than by the manoeuvre layout at higher level.

On this subject we can see that the presence of more open and practicable areas is not to be considered as the most probable attacker's avenue of approach. He will be greatly interested in "pressing down" under cover, by concentrating close to the objective and avoiding to be under the enemy long range antitank fire for too long.

● The **built-up areas, of limited extension but present everywhere in great numbers**, contribute to divide the attacker's formations, which will be compelled to outflank them, by penetrating the relatively narrow spaces between the various built up areas. Moreover it is to be remembered that, should dominant positions be lacking, **the built-up areas would offer the mere possibility to find those higher weapon emplacements**, even if not very high, that allow the missile system to get rid of the view limitations deriving from the flat land and the vegetation.

Moreover, buildings are a natural obstacle to the movement and a partially sheltered environment. Therefore they save time and work in the defense organization and weapon emplacement preparation.

Small built-up areas as a whole are very important and represent a natural chessboard of "strongpoints" where it is very convenient to pivot the defense.

● The **natural obstacles** (small water courses, embankments, protrusions) very often are considered as connection "braces" between built-up areas. The defense can exploit them in two ways: through the **"over the obstacles"** deployment when it is possible to take advantage of the cover offered by vegetation and embankments; or through **"behind the obstacles"** deployment when the defense halting capacity permits to hit the enemy during the critical crossing phase of passage, where he will be forced to form into columns his vehicles.



It is also possible to adopt both procedures in successive times, in relation with the same obstacle.

THE WEAPON SYSTEMS

To better utilize this peculiar environment, so usual in our landscape but not well known in analytical terms, it can be useful to compare it with the main characteristics of the weapon systems that we have today or will acquire in the near future:

● The **tank** can still be considered as the most effective vehicle to face an enemy attack.

In fact:

- it is barely vulnerable to indirect fire effects, while the protection increase of the last generation models guarantees a renewed survival capacity even against the hollow charge shells;
- can rapidly change position

The ameliorations made in the protection of modern tanks require adequate improvements in the performance of weapon systems. In particular the light antitank weapons, as the "Panzerfaust 3" - shown in the photo, employed by a German soldier - play a crucial rôle in the self-defence tactics, especially in built-up areas. The "Panzerfaust 3" can also be fired from a closed location, and can neutralize any modern tank.

to intervene or to avoid fire when located;

- can "withdraw while fighting" and can break off contact also without the intervention of the cooperating units;
- has a high rate of fire.

The peculiar polyvalence (antitank and anti-infantry) and the possibility to accomplish very quick offensive (counter attacks) and defensive (antitank deployments) tasks, confirm the decisive importance of its combat rôle with the restrictive terrain conditions under consideration.

But also tanks present some limitations which come from their high cost and their expensive maintenance, from their weight and technical characteristics (mobility on bridges, icy or muddy surfaces, crossing of trenches and water courses), from the poor possibility of observation and intervention at short distances (dead zones); in addition, its size exposes it to air observation and offence.

● **Medium and long range missile systems**, cannot be used, for the well known technical reasons, at short distances, while they are more effective in a situation of deeper fields of fire. Due their vulnerability to indirect fire, some work as dug-in or protected weapons emplacements is required. This means a prevalent static defense or, optionally, a manoeuvre based only on short ambush actions and, consequently, large handovers of the available space.

Other characteristics are

the low rate of fire (long duration of the trajectory) and the possibility to be effective only against objectives which stay exposed for the time necessary for hitting them.

● **The small antitank weapons for close combat**, rather neglected for a long time for their poor performance, have recently gained new interest.

The prejudice of their poor reliability resulting from the unfavourable psychological conditions of the rifleman in a close-in combat situation, must be discredited.

If, on the one hand these conditions cannot be undervalued, on the other it must be noted that this type of weapon cannot be considered only the extreme means of self-defense.

The need to fight the enemy tanks or tracked vehicles in all close combat situations, **with short field of view and range**, must be considered not only an exception but a normal event,

exactly on that terrain to which we should pay our greatest attention.

The antitank close combat will be considered therefore an essential need in many situations, if we don't want to give up all defense.

We have already emphasized that the short distances are those limiting the tank's operational capabilities, and, therefore, the infantryman, if equipped with a light handy weapon, and well trained, can gain, in this case, some advantages over the tank.

This kind of antitank weapons could be more important

"MILAN" (Missile d'Infanterie Léger Anti-tank) guided antitank medium-range missile system, employed by an Italian "Alpino".

The "MILAN"s range spans from 25 to 2,000 m; the missile can pierce up to 352 mm of armour.

Together with the "TOW", it is one of the weapon systems most commonly employed by the Western armies.





only if we show trust in their possibilities.

Anyway, these low cost weapons can be used only once from the same position.

Therefore there is the need – considering also their future configuration (“disposable launcher” type) – to have a large quantity of these weapons in order to reach a good power ratio.

More precisely, the classic ratio 1 to 3 – which is considered good enough to resist a defensive combat at the longest ranges – will be, in this particular situation, 1 to 1 because it is very difficult that a single weapon can face more than one attacking tank.

In such a context, it seems necessary to deliver them to the rifle squads in a larger quantity than the one presently foreseen for the bazooka.

As the missile system, also the short range weapons are vulnerable to indirect fire and moreover they have no defense against the fire of the automatic weapons of the enemy tanks.

This is the reason why they are to be used from dug-in or protected emplacements.

There will be, therefore, additional work to carry out, in connection with their high quantity.

Once again the wise exploitation of built-up areas is very important, because they allow a better protection in the defense, than the open terrain.

POSSIBLE OUTLINES OF EMPLOYMENT

Before any decision is taken we have to individuate:

- weapon emplacements with wide field of view (for long and medium range missile systems), if available;
- weapon emplacements where close combat will be unavoidable (for shorter range antitank weapons);
- spaced up areas between built up areas, where the tank polyvalence will guarantee either defensive deployment of quick movements;
- natural obstacles able to slow down the enemy advance and manoeuvre.

From that we can desume the **ideal balance of forces** to accomplish the task.

The peculiar terrain here considered seems in any case to confirm the opportunity to **assemble mixed teams** (as largely accepted by all military doctrines) in which the examined three components (missile systems, tanks and close combat weapons) are harmonically represented.

The analytical definition, based on the terrain, of the most satisfactory balance between the above mentioned components could involve repeated **forces relocations** when we forecast to reiterate the defence

in **successive alignments**.

Generally speaking, therefore, in static situations it will be necessary to set up teams where the number of each weapon system is adequate to face the conditions set by the terrain we need to garrison.

In more dynamic situations it could be more convenient to define an average basic composition, by accepting a partial or limited utilization of one of the components in certain combat stages, on condition that repeated adjustments and changes are avoided, since they would affect the combat team cohesion.

Moreover we must define the **more appropriate level for achieving the integration of the various elements**.

Normally this will be operated at task-force level but often also at team level.

But different solutions are possible (which range from the homogeneous task-force structure to the tank section rifle squad integration).

Once more the terrain characteristics will impose the decision and will involve an integration at the lowest level in relation to the largest compartmentalization.

The antitank combat will be based on the harmonization of the three components, as follows:

- **missile systems**, particularly at medium ranges (without ex-

An infantry squad of the French Army, carrying a "MILAN" anti-tank weapon system, disembarking from an Aero-spatiale-Westland "Puma" helicopter. The infantry-helicopters cooperation is essential when the terrain is deeply partitioned.

engaged units, and for counter-offensive operation.

Forces **coordination** is essential in this defensive scheme and the greater is the terrain compartmentalization, the more complicated is its achievement, due to the fragmentariness of the action.

Theoretical and general formulations on criteria to be followed cannot be given.

In fact, such criteria can come out only from the examination of real cases, and most of all from the research of the simplest and most standardized command and control procedures.

THE COMBINED ARMS COOPERATION

Besides the integration problem among the well known antitank combat components, the conditions of cooperation with Army Aviation, Artillery and Engineers deserve some specific notice too.

- The **employment of antitank helicopters** on a large scale related to the vehicles performance should allow to overcome most of the difficulties emphasized by the described environment, specially the limited depth of the field of view and fire.

In this context we should consider:

- the aircraft high cost that

limits the increase of their number and availability;

- their vulnerability to air offence and to new anti-helicopter weapon systems;
- the impossibility to use them in extended actions or in those requiring continuous control and real seizure of positions.

In this context helicopters seem to find their best **employment with mass and gravitation criteria**, especially as a reserve to achieve the greatest concentration of antitanks fire on the point and at the desired moment in critical situations, to intervene on unforeseen penetrations or to protect exposed flanks.

- The **artillery and mortars adhesion fire must** be directed to obtain:

- interventions concerning specific situations (crossing obstacles, bound passages) rather than less detailed action phases, by considering the transitory, hard and remotely uncontrollable targets;

cluding long range systems), located in minor built-up areas on top of buildings to intervene at their maximum ranges, with the aim of achieving the overlapping of fire with deployed weapons on conterminal positions (prominences, embankment and terraces may be used in a similar way);

- **small antitank weapons**, for built-up areas direct defence and, in any case, for counter-ing the enemy progression anywhere the field of view limitations make unnecessary the use of longer range weapons;
- **tanks**, to be integrated only if necessary by mechanized infantry in order to operate "between interspaces" on defensive deployments, to move every-time the situation dictates their action also at lower level to reinforce and supply particularly

French infantryman with an "APILAS" short-range antitank rocket launcher. This system has been developed in order to provide the infantry with an antitank weapon able to hit the enemy tanks up to a distance of 300 m. The "APILAS" can pierce up to 330 mm of spaced armour at a 65° incidence.





- smoke screens, when the terrain doesn't offer an adequate cover to the break of contact by the friendly units;
- barrages, in order to hit at the right moment the dismounted enemy units close to the objective.

The recurring tendency to foresee important operations against enemy armored formations for cutting down their advance speed and limiting their freedom of action must be carefully considered case by case.

The generalized adoption of this practice could be, in fact, not remunerative in terms of cost-efficiency if we consider on the one hand the poor result we can get (which is restricted to "nuisance" only) and on the other the risk that the deployments are detected by acquisition systems and neutralized before having produced worthy results.

Synthetically: the particular terrain and the nature of the objectives foster numerous and timely interventions, with high rate of fire, even if in contrast with the most generally accepted principle of mass employment of fire.

Special importance have:

- the observation, related to the considerable limits imposed by

reduced fields of sight;

- the tactical organization aimed to give the minor level units the maximum autonomy in favour of the intervention times.

● Concerning the employment of **Engineer units**, the environment under examination suggests to emphasize, besides minefield emplacement, rather difficult to be laid on a large scale in a short time and in successive alignments, the following steps:

- mines, explosive booby traps, and barrages to be emplaced in set paths, in buildings or in groups of buildings properly selected;
- strenghtening of natural obstacles;
- improvement of the protection given by built-up areas;
- support for the realization of weapon emplacements when the terrain doesn't assure a sufficient cover and concealment;
- works and activities aiming at facilitating the friendly units' moves (preparing passages over the obstacles, removing ruins, using bridge-laying tanks).

To satisfy the above mentioned requirements the engineer units have to conform their action criteria to those of the combat units.

ACL 300 "Jupiter" French antitank rocket launcher.

This weapon can be fired also from a closed location, provided that any obstacle behind the shooter is at a distance of at least 80 cm.

The "Jupiter" can pierce a compact-steel armour of 800 mm.

The training activity, which is on the theme "Tanks, anti-tanks and ... environment" has already started with realistic criteria, concreteness and maximum adhesion to the inconstant reality of the natural environment and relevant modifications caused by man.

The experimental test will certainly give rise to a general investigation of this matter which in turn will translate into a thorough formulation of the relevant doctrine.

In conclusion, it is worth emphasizing the peculiar element of these hints, for in the past we have more or less discussed the "tanks and anti-tanks" matter, but never the environment factor.

All the above is solicited by the issue as well as by a request to the Cadres to examine closely the subject so that the players of the modern conventional combat between infantries can be considered a single subject: "tanks, antitanks and ... environment".

The Frontier of Freedom

WITH THE "LEGNANO COMBAT GROUP", IN 1945



The "Legnano" Combat Group entering Bologna.

THE ITALIAN COMBAT GROUPS ON THE TRAIL OF THE 1st MOTORIZED GROUP (*) OF 1943 AND THE ITALIAN CORPS OF LIBERATION OF 1944

In 1944, after tenacious pressures by the Italian General Staff and long discussions with Allied Powers, aimed at increasing Italian contribution to the liberation of Italy from the Germans, our military authorities were finally able to form six Combat Groups, real Major Units at division level, agile and well articulated, equipped by the Allies with the same kind of weapons, means and materials of the British Divisions.

Two of these Groups, the "Mantova" and the "Piceno" did not arrive in time to take an active part in the fightings. The "Cremona", the "Friuli", the "Folgore", the "Legnano" Groups, after a short but heavy training period, were deployed, in January-March 1944, along with Allied units: the former three with the 8th British Army, between the Senio river line and the last degrading layers of the Apennine mountains, between Se-

(*) Translator's note: Unit at Brigade level.

nio and Santerno; the forth one with the 5th American Army, in the valley of the Idice river.

During the following April, as soon as the Allies started a new offensive against the German Army in Italy, our Combat Groups fought decisively and with determination against an enemy worn-out and inferior in forces and means, but determined to resist.

The "Cremona" Group, having shattered the enemy defences on Senio and Salento, overcoming the obstacles posed by the enemy and the terrain, reached Mestre and Venice.

The "Friuli", the "Folgore" and the "Legnano" Groups, competing in determination and heroic conduct, moved to Bologna and liberated it. Then they spread north of the Po river to liberate all Northern Italy, in connection with the Resistance, until the end of the military operation in Italy.

In these short lines, all appears simple and smooth; yet, behind the constitution of the six Combat Groups there was an incredible labour, with discussions, hope, bitterness, disillusion, in an atmosphere of objective and psychological difficulties. Not Divisions (as the Allied ones) but Combat Groups. Those Groups were assigned to the Allied Army Corps and not to one or two

Italian Army Corps. No armoured units were assigned to the Groups.

— We would have wanted more and better. But never mind! We could boast of being on the fighting line, at the "Allied" side, reasserting the Italian presence in the liberation war; presence already initiated by the glorious 1st Motorized Group and by the audacious "Italian Liberation Corps". After a long and hard war, lost but honourably fought, we wanted to express the will of the Italian Army for recovery and active engagement, until the complete liberation of the national territory and as a base for its future reconstruction.

All the Combat Groups operated with enthusiasm and spirit of sacrifice, earning wide recognitions from the Allies. Particularly, in this article, I will report my experiences in the "Legnano" Combat Group, that originated, through an organic transformation, from the Italian Corps for Liberation.

FROM THE ITALIAN LIBERATION CORPS TO THE "LEGNANO" COMBAT GROUP

On 24 September 1944, the Italian Liberation Corps, after having climbed up the Italian Peninsula, with generous enthusiasm and steady determination,

side by side with General Anders Polish unit, was dissolved and with its units two Combat Groups were formed: the "Folgore" and the "Legnano". The Italian Liberation Corps (CIL) had honourably fought, and had accomplished all its operative tasks, although through painful losses, winning appreciation and consents by the Allied High Commanders, who at the beginning were not very well disposed towards their former enemies.

The CIL men had re-asserted their will to fight for the liberation of the Italian territory. Yet, during eight months of continuous operations, this Large Unit, without reserves, without equipment, with few motor vehicles, was worn out: at the end of the offensive action against the Gothic line, men were literally torn to pieces. The order that brought us back to the rear area for the reconstruction of units proved to be providential: new weapons, new equipment, English outfits, with those odd helmets that, for years, propaganda had shown as "frying pans" crooked over the "tommies'" oblong and twisted faces.

The change was certainly stimulating and engaging: especially the idea that we could use good weapons and, above all, ammunition "without restrictions".

Two moments of the liberation of Bologna by the "Legnano". On 21 April 1945 at 09.30 the Bersaglieri of the "Goito" and the IX Arditi assault unit enter the town, enthusiastically welcomed.



In the rear area, to reconstruct units (from a second lieutenant's diary)

16th September. Corridonia zone. We have just taken the mules out when we are told that tomorrow we are to move to the South. - We are not very happy about it. - The few days in Corridonia have given us courage. - People have been marvellous and generous. - It seems to stay at home. - We work to get ready until late evening. - We say good-bye to friends (and girl friends) with nostalgia until late night. - Some people cry.

17th September. We remove in motorconvoy from Corridonia to Piedimonte d'Alife, at the Matese slopes - it pours with rain - we pitch the tents in the mud, regretting Corridonia comforts.

19th September. The gunners of "Piemonte" battery are given the choice to join either the 11th field artillery regiment, or the "Alpini" supporting fire company of the "Piemonte". After a short plenary meeting the decision was to join the "Piemonte" company, heading to the Piemonte region.

20th September-20th October. Weather conditions exceptionally bad - rain and snow are falling and a cold wind comes from Matese; hard training with new weapons; very tiring; we get wet all the time. In spite of everything, moral is high. Our mules start off: on the Marrone mountain and on the Castelnuovo they have done marvels, during the advance on the Adriatic front we have never run out of ammunition and food and we have often given food to hungry motorized troops waiting for supplies. Good-bye friends, and thank you! Alvise and Eraldo, reserve officers, on request, are on leave. Only us, permanent officers, are left to go on marching to the North! Eraldo leaves me a letter for his relatives who are in a difficult situation in the North. A sound and pleasant fellow from the Abruzzo region called "Fab" comes for reinforcement: he will be the leader of the close supporting weapons platoon. I will be the leader of 76 mm mortar platoon. I have resulted first in a short but intensive mortar course organized by the English: they make us sweat blood, through a simple, essential, diabolically repetitive, but very effective training. Rustic weapon, powerful ammunition, mortar easy to handle. It is all right for me. We are astonished by the number of motor vehicles our company has been equipped with: motorbikes, jeeps, light and medium lorries, tracked vehicles, great quantity of fuel; we all become skilled drivers. We are beginning to touch by hand the meaning of "no saving war", conducted by the Allies with plenty of logistic support and organization.

20th October-14th November. The very intensive but stimulating training is going on - we are shooting with all

kinds of small and crew-served weapons: men are excited and high-spirited. I am satisfied with my platoon: with "ten gunshots fired rapidly" we can obtain a terrific concentration. The Chief says that I can be satisfied in having increased the caliber by a millimeter (from 75 to ...76).

15th-16th November. We are in Rome to leave materials at Forte Bravetta: good-bye dear old 75/13, I am forced to leave you; I have become a mortarman, good-bye. Plunging into Roman life with Carlo T.; Watching dance-girls at Sistina Musichall; dinner at the "Osteria dell'Orso". In Rome, very few people talk about war, nobody knows that Italian units are fighting on the front line, it seems to be something far away in space and time. Back to Piedimonte with bitter spirit.

17th-18th November. Trip to Naples: same impressions as in Rome, doubled in intensity. But a distraction, every now and then, does not harm. Chaotic but fascinating city.

19th November-6th December. Incredible: within two months, we have changed from being a packed battery with 140 mules and four 75/13 obices to a company with one tracked platoon with 4 76 mm mortars, one anti-tank gun (6 pounds) platoon, one command platoon and one services platoon completely motorized. The best drivers of tracked vehicles are the "mule-drivers" Dialley e Dainé, from Aosta Valley, who had never seen an engine! Allied officers come to watch our combat training and go back saying: "Alpini, very good soldiers". A warning order to move towards Manziana-Bracciano, North of Rome. No regret for leaving this marsh! Off we are again, marching towards the North, with english weapons but with the Italian and the "Alpini" spirit.

7th December. Off to Bracciano, quartermasters section leader. Let's hope not to jump out of the frying pan into the fire. Very precarious accommodation, but a poor quartering is better than a good camping. It is snowing all the time. It's always cold and windy. We are going on with hard training in co-operation with the "Alpini" companies. Between "panse lunghe" (gunners) and "cunici" (alpini), there is always a perfect understanding. Some short visit to Rome, but we come back at evening tired and discouraged. It is the second sad Christmas far from the family: people are working seriously (but this war never ends!). We spend Christmas all together in Bracciano, with nostalgic songs. The Battery is a large family where every body has been living for more than one year suffering, fighting and rejoicing together. Shared risks and hardships are incre-

The Frontier of Freedom

dibly effective means of cohesion. 1945 New Year's Day and Epiphany Day at B. house, attending a ball at the Italian Alpine Club (CAI). Pleasant distractions.

8th January. I am leaving for the Chianti area (charming name) as Quartermaster (the Chief says I have become a specialist). To the "Piemonte" is given the responsibility of the Radda, Vagliagli and Castellina area. The Battery, (to me is always the battery in spite of what the new Bn. Commander Maj. Rossetti, who has replaced "old" great Chief Penna Bianca Briatore, says), settles down in Scopeto, a beautiful Tuscan villa with a large cottage around. Good accommodation. Hard tactical training. Shooting training with English instructors; camouflage exercises; the English training method is hard and systematic. The instructor, even if he is a non-commissioned officer, is a "little father" and he is very strictly obeyed. The Chianti zone is marvellous: we visit villas and castles; Ricasoli Barons have given us a touching hospitality; people from Chianti are genuine and open: we are received in farms as sons and brothers. In the evening, patriarchal families use to gather around the fireplace and the head of the family is used to tell, with right words, brilliant and salacious stories: it seems to hear Boccaccio or Sacchetti; the words "bischero" and "passera" (*) can be often heard, and everybody (adults and children) is laughing aloud. To us, from Piemonte region, it is a different and warm world, that soothes our worries due to lack of news from the North, where things are going rather badly, with bombings and mopping-up operations. We have the news that the Italian troops (Alpini?), fighting with the Germans, have attacked in the region of High Garfagnana, making the Brazilian unit that occupied the sector run away. I don't mind the episode (what a chauvinist!) but I also think that we could find them in front of us, who knows where, when we are in the front line. Italians against Italians, what a tragedy! The owners of the villa of Scopeto are very hospitable and generous: we sing and dance serenely. Chianti life is spoiling us. Short visit to Siena: a beauty! But there is an atmosphere of moving: we are going to get back into the front line. We are in good shape, enough trained, moral is high: yet, compared to a year ago, men have "felt" and "seen", during these six months, that from Florence downward nobody thinks about the war and the Italian Combat Groups, that are getting ready to combat. We would really like to feel behind us a more solid "national consent".

(*) Note of translator: Salacious words (slang).

THE "LEGNANO" GROUP BACK TO THE FRONT LINE

Between September 1944 and February 1945, under the energetic command of General Umberto Utili, the "Legnano" Group became an operative and combat-ready unit, and moved from the Piemonte d'Alife zone to the Manziana-Bracciano-Triolo zone, then to the Radda-Castellina in Chianti zone under the logistic and employment control of the 8th British Army.

On 13 February, the "Legnano" Group passes under the operative control of the 5th U.S. Army, with a warning to be employed by the 15th of March in a mountainous and hilly area with defensive tasks.

Firings, tactical and motor-convoy exercises, at day and night time, give the final touch to the training.

Three Italian Combat Groups are already on the "Gothic Line": the "Cremona" (since January), the "Friuli" (since February) and the "Folgore", employed from the beginning of March.

The "Legnano" is organized in the following way:

- Headquarters (with 2 "Carabinieri" mixed sections);

- the 68th regiment with two battalions and one assault-battalion (Col Moschin), one 67 mortar company and one anti-tank gun company (6 pounds);

- Special Infantry Regiment with two "Alpini" battalions ("Piemonte" and "L'Aquila") and one "Bersaglieri" battalion (Goito), one 76 mortar company, one 6 pounds cannons company;

- the 11th artillery regiment with four 25 pounds battalions, one 17 pounds anti-tanks battalions, one 40 mm light anti-aircraft weapon battalion;

- the 51st mixed engineers battalion;

- Services (Medical Section and 2 Field Hospitals), transport and supply company, repair and recovery unit, mechanical workshops.

On 15 March the "Legnano" Group moves from Chianti zone to the "assembly area",

north of the Appennini watershed ridge (Piancaldoli, La Martina, Tre Poggioli). On 17 March, the "Legnano" passes under control of the 2nd American Corps and reaches the front line at Idice sector between the 10th Indian Division of the 8th British Army on the right, and the 91st U.S. Division on the left. The "Legnano" then operates exactly in the delicate overlap point between the 5th U.S. Army and the 8th British Army. The insertion is done with "surprising regularity and order" (the Germans do not notice it until some days later) and ends on 23 March. The "Legnano" deployment, about 10 Km wide, was constituted by the line that the Allies had reached during the offensive operations of the previous year. The advanced positions, in the whole, were quite unhappy, either because overlooked by the German observation points and strongholds, or because they were open or very close to the enemy positions. They did not have much value for a valid defence nor as a line of departure for a new offensive.

The defence was organized "by strongholds" with large minefields covered by the fire.

The Italian and German Infantry were at tight contact especially at Pizzano, Casa Collina, Poggio: the all advanced area was under German machine-gun fire, intervening, on purpose, at weapons maximum ballistic distances (with strong and also psychological effects).

Opposite to "Legnano" there was the 305th German Infantry Division, that had a main defence line based on strongholds running from 500 m to 1 Km behind the outposts line. Some advanced German strongholds were intentionally very close to our advanced positions to make, for obvious security reasons, very difficult a heavy concentration of the artillery fire.

As we discovered during the final advance, the German observation organisation and the field fortifications (several concrete works) were very good indeed. Mine-fields and sparse booby-traps were numerous.

Mortar positions were very good. Reverse slope firing positions were frequent. In short, a non-easy terrain and a well-organized defence. Enemy vulnerability: low moral, reduced personnel, scarce munitions availability, air and land inferiority. (What a difference from the dynamism and the fighting spirit on the "Gustav" line and during the delaying manoeuvre between the "Gustav" and the "Gothic" lines!)

Patrols of "Legnano" start. Since the first night, an intense patrolling activity leading to the first clashes in front of the Parrocchia di Vignale and the Ca' di Rezzone positions: we could feel in the air the approaching of the spring offensive.

The "Alpini", on the front line from the beginning, are toughly engaged by the enemy who, although in a defensive strategic attitude, operates in the field tactic in accordance to highly dynamical concepts. The German offensive patrolling is tenaciously opposed by the Alpini, and, as the days go on, it loses effectiveness, leaving to the "Alpini" the full initiative in a no man's land.

Major Augusto de Cobelli, the "Aquila" battalion commander, falls during one of these "reconnaissances". For this reason he is posthumously awarded a Golden Medal for Military Valour. The Commander of "Legnano", General Utili, will write: "I thank him for having sealed, with his own blood, the traditional place of honour of the Italian Officer".

THE SPRING OFFENSIVE AGAINST THE "GOTHIC" LINE AND THE CONQUEST OF BOLOGNA

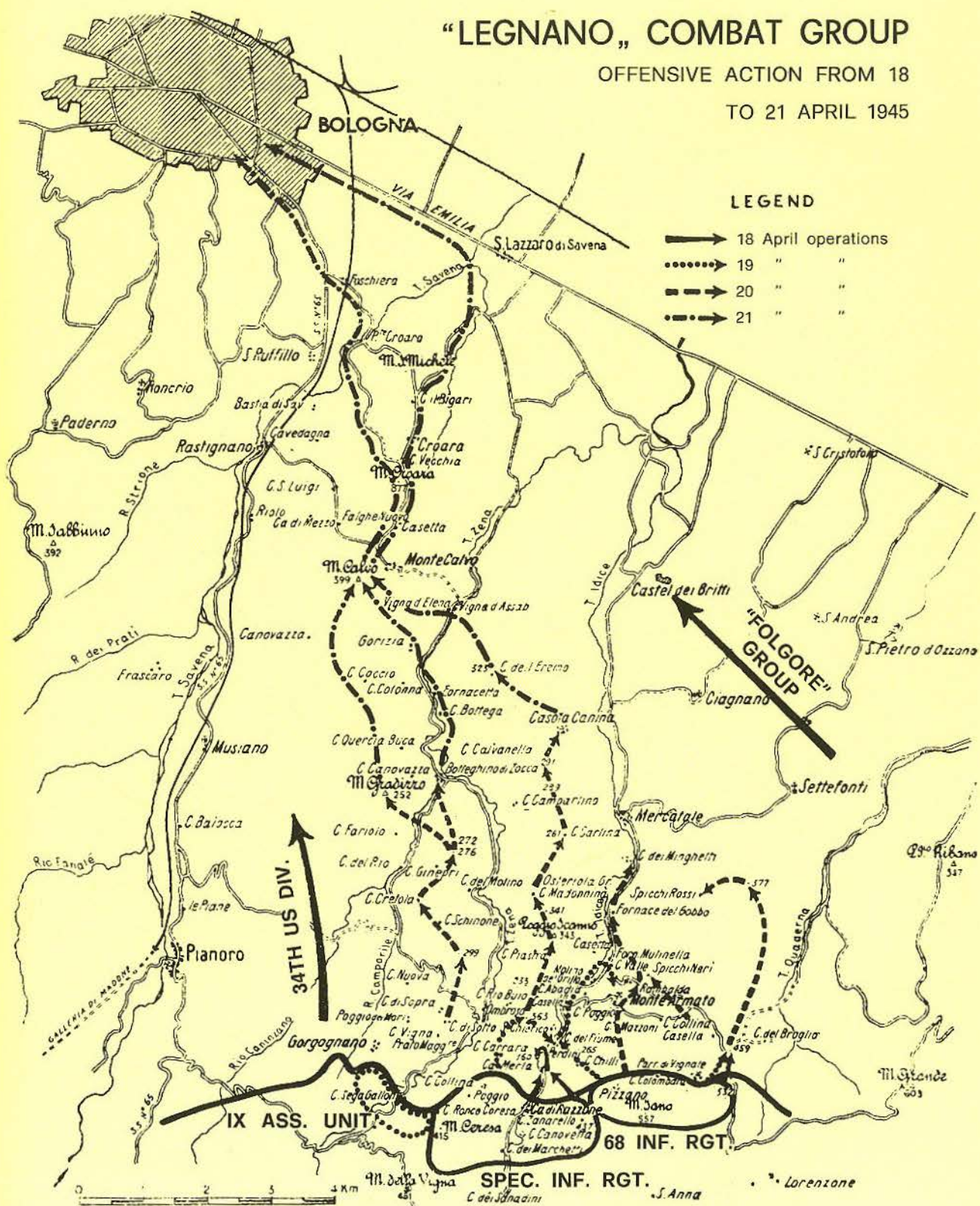
On 25 March, the action of the artillery battalions joined together began and the number of the enemy positions under attack increased.

These drum-fire actions with large use of ammunition lasted until 7 April. Since then, every night, always at different hours, an actual artillery preparation fire began together with simulated thrusts of reinfor-

“LEGNANO,” COMBAT GROUP

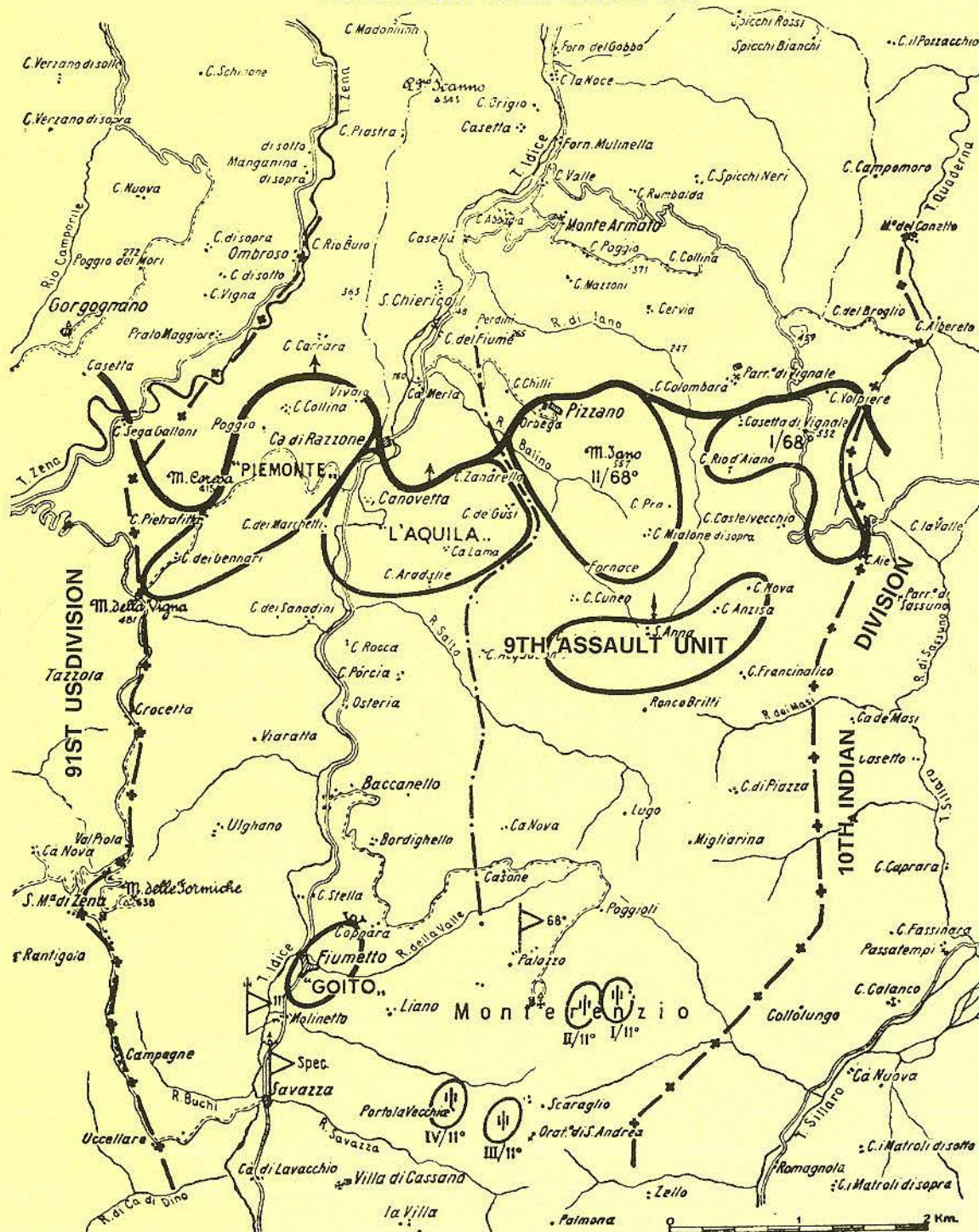
OFFENSIVE ACTION FROM 18

TO 21 APRIL 1945



The Frontier of Freedom

"LEGNANO", COMBAT GROUP DEPLOYMENT ON 23 MARCH 1945



ced companies, that tended "to deceive the enemy about the D day and the H hour".

The D day, the 2nd U.S. Corps was supposed to attack with 4 infantry divisions and also the "Legnano" Group, in first array towards Bologna, along the n. 65 State Road, thus manoueuering from the west to the east. In such operative scheme the "Legnano" Group was initially supposed to contribute with its supporting fire to the action of the 34th U.S.A. Division (wich had replaced the 82nd one) deployed on the left side, to protect the 2nd Corps right flank and to provide connection between 5th U.S. Army and 8th British Army.

Later the "Legnano" Group was supposed to conquer the 363 spot height and to simultaneously advance and protect the right wing of the 2nd Corps, by adjusting continuously the front of contact.

In this context, on the 10th of April, the 68th infantry regiment carried out successfully two diversionary attacks with the two "arditi" companies of "Col Moschin" battalion on Parrocchia di Vignale and hill 459 accompanied by heavy artillery, mortars and tanks fire supporting action.

Such an action deserved the appreciation of General Keyers, Commander of the 2nd U.S. Corps.

On April the 16th at 3 o' clock, the 34th U.S. Division attacked Poggio dei Mori and M. Arnigo; with the fire support of the "Legnano" Group it conquered them on the 18th, while at the same time the "L'Aquila" battalion carried out thrusts on Ca' Merla and on hill 160, and the 68th infantry regiment on hill 459.

Meanwhile news was heard of the 8th British Army advancing towards Romagna plain and of the successes scored by the "Cremona", "Friuli" and "Folgore" Combat Groups, that were operating in that sector. Also the 5th U.S. Army, that was gradually manoeuvring offensively from the west to the east with the 91st, 88th, and 34th Divisions managed to break through and to achieve satisfying progresses.



It was then the turn of the "Legnano", and general Utili gave the order to start the operations on April 19th. The "Alpini" of "Piemonte" started the action with an epic assault against hill 363, and conquered it with vehemence using hand grenades and bayonets, while the enemy stronghold was still covered by the smoke of the artillery last heavy concentration fire, and many Germans were still in their shelters.

"L'Aquila" battalion went into action against C. del Fiume and San Chierico; also the 68th infantry regiment moved towards Roccioni di Pizzano and hill 459, strenuously defended by a german stronghold.

All Groups receive the order to go on pressing the enemy as hard as possible, without loosing contact. «Forward, "Bersaglieri" of the "Goito" battalion»; «forward, "Arditi" of the 8th assault battalion! Towards Bologna». Poggio Scanno e Casola Canina fell into "Bersaglieri"'s hands, Monte Gradizzo was conquered by "Arditi", while "L'Aquila" battalion moved towards Mercatale and the 68th battalion towards hill 377. On the evening of 20 April our advanced patrols took position on the hills facing Bologna, evacuated during the night by the german troops.

Forward, men of "Legnano" special regiment! At 0930 on the

April 21, 1945. The "Legnano" entering Bologna, welcomed by the population.

21th of April the "Goito", "Bersaglieri" and the IXth assault unit "Arditi" entered in Bologna. This town, after an anxious night of waiting for liberation, welcomed with enthusiasm our soldiers and the Allied Forces.

The "Alpini" of "Piemonte" were overtaken on the hill 363 by other units; after a terrific "mortoride" towards the final objective, they reached Bologna just a little later.

In the afternoon, after an exhausting march, "L'Aquila" battalion arrived by foot.

All the other units of the "Legnano" moved to Bologna, while the defeated Germans were retreating through the Po river, pursued and attacked by the elements of the "Resistence" movement that, since the 23nd, the date of the general insurrection, had all together gone into action to hastern Northern Italy liberation.

On the 23nd of April, the "Legnano" Group (that was already ready to move towards North behind the 91st and 88th U.S. Divisions) was detached from the 2nd Corps and assigned to the U.S. Army with the temporary task to keep public order in Bologna.

This task lasted very shortly,

because on the 27 of April the "Legnano" Group began the movement towards Brescia, under the operative control of the IVth U.S. Corps.

On April the 29th, Brescia was occupied by a regimental combat team (Goito Bn., 68th Bn., 9th assault Bn., one U.S. tank company) supported by two artillery battalions.

On April the 30th, the "Goito" Bn. and "L'Aquila" Bn. occupied Bergamo, while one company of the IX Bn., helped by partisans and U.S.A. troops, eliminated at Ponti sul Mincio, a barricaded german company.

On the first of May the 143th company of "L'Aquila" headed to Pavia with the 91st U.S.A. cavalry squadroon, in order to eliminate an enemy concentration; then it proceeded towards Alessandria and Asti, reaching Turin in the afternoon of the second of May. It was preceded a few hours earlier by the 4th Company of "Piemonte", that was converging from Milan, Novara and Vercelli.

Offensive thrusts and mopping-up were carried out in Como, Edolo, Passo del Tonale, Sarnico, Val Sabbia (last fighting - the 2nd of May) by company-level units.

During this short operative period of 40 days, the "Legnano", although not engaged in decisive fights, (it did not have anyway the shocking power necessary for main break-through actions), had operated with professionalism and determination, gaining consent and praises from Allied Commanders.

General Clark, the Armies Group Commander, at the closure of an acknowledgement letter sent to general Utili, wrote: "It has been a privilege having had you with us in the XV Armies Group. Thanks deeply".

In these 40 days the "Legnano" received the inheritance of the first motorized "Group" and the Italian Liberation Corps. This inheritance is made of sacrifices, bravery, painful losses, and has brought the flag of liberation to Homeland borders. "By sword and spear against Frederick Barbarossa".

On the front line of Bologna and further (from a second lieutenant diary)

13th of March 1945. The usual quartermaster. Good bye, good bye, sweet Chianti hills, generous, witty and hospitable people. We are going back to the fight. From Florence to Appennines. - Futa and Radiconia passes everywhere lots of ammunition, materials fuel, tracked motor vehicles. At Piancaldoli, in Selene Valley (assembly zone). We are in the Po river basin; in everybody there is a bit of emotion: we can hear the artillery rumbling at a distance.

15th-16th of March. Night time reconnaissance in Idice Valley - we will replace some USA units- agreements and understandings (what a difficulty in comprehending each other!).

17th of March. In line with mortars platoon at Casa Croce. Today is my twenty-first birthday- my soldiers have toasted me, they were very moving. - Germans are firing some shells: during six months spent in the rear area we had lost the habit of them.

20th March. All organized - we are all well "dug in" and "defilated". Well protected, efficient observation post. At the orizon we can see the S. Luca sanctuary overlooking Bologna -. We toasted the town rapid seizure, the end of war, the coming back home: in the air we can feel the spring coming. In front of us, in the Zena Valley, there are no infantry men: mortar men are in front line. I will send night patrols.

24th March. Col Scarpa, Special Regiment Commander, visits the unit. While he was going up to Casa Croce, Germans shot at him with machinegun. He talks to men in a moving way. He is a good Commander indeed!

25th of March. Starting from today, "rapid fire", to deceive Germans about offensive beginning: all artilleries shoot simultaneously for 10' at maximum rate of fire: the effect is dramatic but fascinating: the sky is lighted by hundreds of blazes as a terrible thunderstorm; I would'nt like to be on the other side. It will go on like that every night, until general offensive. On the last days, air-planes, mortars and tanks will also operate.

10th of April. A patrol has found in an old farm of Zena Valley, in no man's land, a small USA tinne goods and cigarettes depot. We establish a permanent advanced garrison. In twenty days we have shot nearly 7,000 mortars shots. Gun crews are going great.

CONCLUSION

At the end of the war in Italy, we looked back to the road we had own from the 8th September 1943, when, being at the Staging Area Command in Bari,

11th of April. From this night on we also start being part of the "big night concert": the offensive is approaching.

12 April. On the edge behind the front line, five USA tanks have shown up to take part in the "big night concert". After the fire they move away and we had to receive two rounds as german answer: very well served! A small ammo-depot took fire, but gun crew intervened at once with great care.

15th of April. Some german 75 granades are shot spreading propaganda leaflets in english language exhalting nazist victory. They must be really at the end. We heard rumors about V2 launching pads in the Padana plain: we talk about them but we are not anymore afraid of them.

16th of April, 3 o'clock. The 34th USA division on our left has open a hell of a fire. I have followed from n. 1 observation point the attack on Cemetery of Gorgognano: it was done in a perfect way. Firstly artillery and mortars, then tanks with flat-trajectory and short distance fire, until the last minute. Finally, a bound of assaulting troops. Very good action, I believe with small losses.

18th April. Federico Gasca, replacement of Tandoj as cannon platoon leader is wounded at the head by a splinter at Casa Marchetti. - Hoping it is nothing serious. In the american sector, fights are still very hard. We also intervene during day and night time.

19th of April. Alpini have gone decisively against the well fortified with 363 and they have conquered it. Fantastic soldiers, as usual. Also the mortar men have done well. We are off to Bologna. We are not eating or sleeping; "Anxiety for the big event" takes every thought, every energy.

21st of April, 12 o' clock. We are entering a happy but still incredulous Bologna. The feelings, the scenes, the episodes, the faces, the tears, the hugs, the cries, the kisses, the confusion: there are no words able to describe the arrival of Allies and of us Italians in Bologna! And the same during the following days spent in the town.

27th April-2nd of May. After a short duty visit to Chianti zone, off to Brescia with "Piemonte" Bn.. Then we continue towards Bergamo - on the second of May the 4th supporting arms company is detached in Turin - we arrive in Piazza Castello at 17.30 - I had left Turin at the end of August 1943. I meet my parents in Turin, after twentyone months of separation: I cant' tell what I feel. In Italy war is ended. Now we must start working for reconstruction.

Right.

April 10, 1945. An "Arditi" platoon of the 123rd company, attacks Hill 459. By this surprise action, carried out in connection with our artillery's continuous fire, and lasted less than 1 hour, the "Arditi" eliminated four enemy positions.





we had the news of the armistice: within a few days we had witnessed a material and spiritual collapse of Italy and its Armed Forces, so dramatic to seem total and definitive.

But our people's capacity of resistance and recovery has risen again, firstly in an incoherent and divided way, then with more aggregating force. And while some propaganda was calling madness the very thought of Italian units fighting at the side of Allied Forces, men of the first Motorized Group fell on December 1943 on Monte Lungo for the liberation of the Homeland. The contribution increased month by month with the Italian Liberation Corps in 1944. Then four Combat Groups on April-May 1945 broke into the Po Valley with the Allied Divisions, bringing back again the National Flag on Alpine passes. In the meantime Italian Navy ships were crossing again the Mediterranean and Italian aircraft were taking control again of national air space.

Twenty months may seem little to human memory; yet we "found very long" (using a way of saying from the Piemonte region); they seemed to us to last for an eternity, maybe mainly because of the compelled separation from our families, without the possibility of exchanging news. A psychologist could easily technically describe this phenomenon: we only knew that individual and collective spirits were always very low. We acted in order not to think.

How many things we have learned during these twenty months! The first is that an individual or a community should never throw in the sponge: every situation, however dramatic it may be, is always reversible, provided we don't give in. "Let's

roll up our sleeves, sons" so my artillery men used to say during the most difficult moments.

The second thing we have learned is that the heroic and romantic war was something of the past: we understood at once that war is a matter of planning, abundance and not shortage, industrial organization and effort, method and standardization, cooperation in all forms and at all levels, common will of reaching the aim.

We verified at once that modern weapons, munitions and equipments are a strong multiplier of determination and drive. We realized immediately that operative efficiency is the mutual interaction of five basic factors:

first: man, with well trained body and soul, rich with the consent given by the Community he is bound to defend;

second: individual and collective training, carried out always in cooperation and in the most realistic environment;

third: armament and equipment, that must be functional, simple, strong and modern;

fourth: trained reserves and logistic stocks, in order to give continuity to the combat effort;

fifth: strong and reliable command and control capability.

We also understood that to neglect even only one of these five factors would mean to compromise, if not to reduce to zero, the whole operative efficiency.

The third thing we have learned is that war evolves towards more and more divided and episodic forms, where only platoon, company, battalion Commanders can have a good chance of success, if they are able not only to organize but also to interpret the received instructions and to operate with task technique, with initiative and autonomy, in an operative environment more and more fluid, rapid and complex. Within this context, to conclude, let's go back to the attack of hill 363.

"We are approaching the 1945 spring offensive and, within the overall scheme of the action, the "special regiment" receives the task of conquering the ill-famed hill 363, a hill overlooking

the Idice and Zena Valleys, organized by the Germans as a fearful fortification, at the overlapping point between the 14th and the 10th Army.

"Goito" Bersaglieri battalion is tasked to conquer hill 363, but on April 19, unforeseen events that always occur during battle developments, give this hard task to the "Piemonte" Alpini battalion, that had faced for one month the "363" dominating position and had to put up with automatic weapons heavy bursts.

The 2nd company of "Piemonte" starts off, attacks, advances, stops in a fire storm. All men are in suspense: what is happening? Suddenly the "Dragon" (this is the nickname of the Alpini Commander) asks for another 10 minutes of continuous fire, then, immediately after, asks for an "add". 10 minutes later, a period of time that seemed years to us, we receive this laconical message: "Stronghold has been conquered".

The action on "363" has been an example for timeliness, synchronism, ability, initiative, and decision. While splinters of the last shots were still to fall, the Alpini troops broke into position with hand grenades, surprising most of the defenders in their shelters. There were short but hard fights, so vehement that they forced to surrender an enemy ready to resist: a rapid penetration into the enemy position, that stifled at birth a counter-attack attempt. 70 prisoners (among which the stronghold Commander). The road to the plain was open.

Thank you, War of Liberation men. Your sacrifices give support and reason to our mission of today, give us strength to look with optimism at our Homeland's future. This is what we have learned, and what we would like to have taught to our successors, with the idea that the frontier of freedom is today still open and it is to be defended with the same engagement of yesterday, to give to our sons and to the sons of our sons a long-lasting, free and secure peace.

Gen. Giorgio Donati

Left.

19 April, 1945. Alpini from "L'Aquila" battalion fighting to liberate the village of S. Chierico. Almost at the same time, another "Alpini" unit, the "Piemonte" battalion, conquered Hill 363, holding it in spite of the heavy reaction of the enemy artillery.



THE EXPERIENCE IS IN MEMORY

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84 BB
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93 R
Cal. 9 mm Parabellum.
Single shot or three
round bursts



THE ROYAL ITALIAN ARMY

1915-1918

The lack of close and continuous contact between the General Staff and the Government, particularly between 1914 and 1915, results in serious problems and delays in the preparation of the Italian Armed Forces for their early entry into the World War. In fact, the situation appears inevitable even if the reasons for the change of front due to complex political-diplomatic events do not always seem to be sufficiently known in the responsible military spheres. The fact is that the Chief of General Staff is faced at the last minute by the sudden need to intervene against Austria and in view of the state of unpreparedness of the national war apparatus, he tries to gain time. However, he succeeds in obtaining a delay of only a few months and this not beyond the date of May 1915 in view of the agreement formally undertaken with the Entente by the King and the Government.

Planning is, therefore, hasty and its carrying out somewhat problematic. While envisaging an immediate offensive, the onerous and complex problems of mobilization and the assembling of troops are not satisfactorily solved. At the outbreak of hostilities while the assembling is under way, an unrepeatable and favourable occasion is, thus, lost to proceed with the hoped for occupation of the Innsbruck and Lubljana basins as a first step. Minor adjustments to the frontiers are the only advantages achieved and these limited to the first days of fighting. Then the lines of defence previously organized in suitable chosen locations and the continuing transfer of more troops from the Russian front allows the Austrians to bar the way to the attackers, forcing them to adopt terrible trench warfare.

In order to avoid deleterious immobility and to meet the continued requests from the Allies, the Italian Army is obliged to attempt an opening in the enemy's positions and to advance, certainly not under such favourable con-

ditions as would have been the case at the beginning of hostilities, towards the interior of the Hapsburg Empire. In this way, the decision is taken for the sanguineous battles – the hammer blows – on the Isonzo river line, the battles that for three long years depleted the cream of the troops without, however, obtaining results sufficient to justify the enormous sacrifice in men and materials. In addition, the fighting is rendered still fiercer for the Italian soldier by the aggressive initiatives of the enemy who reacts with the maximum determination. In particular on two occasions: the "Strafe-expedition" of 1916 and the widescale offensive undertaken jointly by the Austrians and Germans from the

Caporetto and Tolmino areas in 1917. In a highly dramatic and dangerous situation the Italian Army is, thus, obliged to defend itself vigorously and to pay a high price due to the strategic deployment oriented towards attacking. However, although in these cases the exhausted state of units at the front and the weakened resistance on the part of the population represent the negative aspects which are most evident, on the other hand as the war proceeds and progressively becomes a total war, the increase in professionalism of military personnel at all levels and the fact that the population is convinced that fighting is the only alternative for the survival of their country are the positive elements which in the end reward all the sacrifices, dangers and disappointments.

There is no doubt that the Army of 1918 has very little or nothing at all in common with that of four years before: with the moral support of the population and the commendable productive capacity on the home front, our soldier has become a well-trained fighter and, more important still, he is highly motivated. It can, therefore, be stated that the troops of the last year of the war are the finest in every way that Italy has ever had: proud and strong and unusually well equipped with modern means. The resistance on the Piave River and the great battle at the Vittorio Veneto are the tangible proof, as are the laudatory judgements of the Allies and the opposing armies.

It is not an exaggeration to define as immense the Italian war effort during the First World War. Apart from the remarkable productive capacity in the agricultural and industrial fields despite the absence of the cream of the male population which is employed at the front, the sheer force of the number under arms is surprising and deserves admiration.

ITALIAN

MILITARY

UNIFORMS

At the outbreak of hostilities the Army comprises 14 Armed Corps, consisting of 35 infantry divisions, 1 "Bersaglieri" division, 4 "Alpini" divisions and 4 cavalry divisions, making a total of about 31,000 officers and some 1,058,000 NCOs and privates, without counting the approximately 50,000 men still fighting in Libya. In particular, the Army has available 438 infantry battalions each of 4 companies with mobilised carabinieri units, 58 battalions of "Bersaglieri" of which 12 were equipped with cycles, 52 "Alpini" battalions, 171 cavalry squadrons, 363 field artillery batteries each of 4 guns, 8 horsedrawn batteries, about 70 with mules and mountain batteries, 28 heavy field artillery batteries, 277 fortress artillery companies, 1 complex of 132 heavy guns, 114 engineers companies of the various branches, 10 balloon sections, 15 air squadrons with 58 planes, and 5 airships, 18 mobilised battalions of the Royal "Guardia di Finanza" (Finance Guard), 113 garrison companies, medical

services and ordnance groups and 5 fleets of vehicles, in addition to the Territorial Militias consisting of 198 infantry battalions and 9 engineers battalions. The availability of weapons is approximately 760,000 rifles, 170,000 muskets, 21,000 cavalry swords, 168 machineguns, 88 heavy field pieces, 1,453 field guns, 32 horsedrawn guns, 108 mule-drawn guns, 200 mountain guns, 5 antiaircraft guns, 132 heavy artillery.

There are evident signs of shortages in the availability of machineguns (only six per regiment), of artillery guns, of motorized vehicles, and of munitions for the artillery. However, towards the middle of 1914 reinforcements of all types are available in reasonable quantities and are forwarded to the front, proving effective and useful soon after the first months of the following year. In accordance with the first strategic plan which had the double objective of the Lubiana basin to the east and the cutting off of the Trentino salient in the north, the available forces are deployed in order that 214 battalions and 141 batteries cover the Stelvio-Monte Canin line and 201 battalions, 30 squadrons and 180 batteries the Monte Canin-Adriatic Sea line. General reserves, totalling 134 battalions, 50 squadrons and 108 batteries are all oriented towards the Isonzo area.

Six new Army Corps with 13 infantry divisions are formed in 1916. At the end of that year the Army comprises 5 Armies. In addition, in view of their special importance mention should be made of the increase in the air force (370 aircraft in 1916), and the fleet of vehicles (950 cars, 10,800 trucks, 570 tractors and 4,000 motorbikes, again in that same year).

In 1917 there are also remarkable increases in the number of troops so that the total of divisions is now 69 and there are more than 7,000 artillery pieces of various calibres. The machineguns also now number 8,700 and the vehicles more than 24,000.

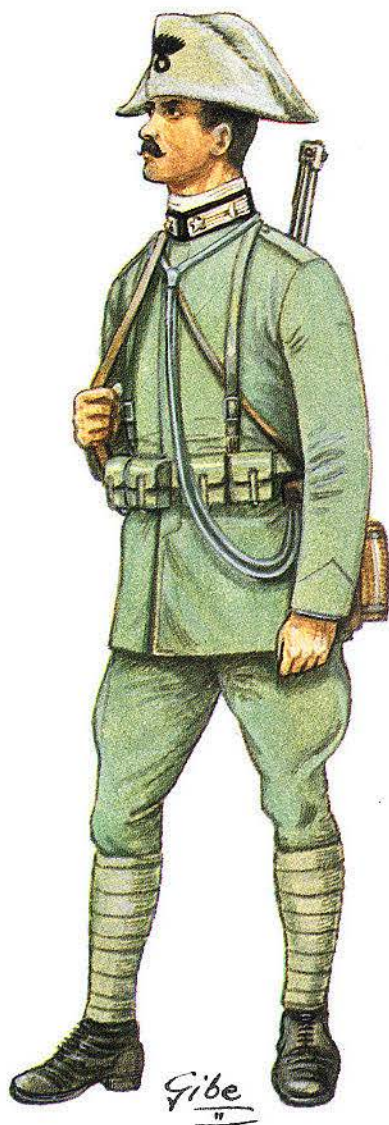
The heavy losses in men and equipment due to the defeat usually called "the Caporetto collapse" seriously reduces the numbers available in the new Italian line of defence from the mountains to the Piave River, but the fighting spirit remains high. In fact, together with the decision of the troops to resist at all costs there is the admirable reaction on the part of the population. The civilians now united and no longer harassed by political diatribes and defeatism succeed in supplying incredible quantities of materials and reinforcements as well as the younger generations to effectively fill the gaps. In this way, all the units which had disappeared are reformed and even augmented and all the equipment which was destroyed or damaged is replaced and renewed, thus contributing to the final victory.

At the end of the conflict the Italian Army comprises, among others, 9 Armies consisting of 24 Army Corps, 57 divisions and 194 infantry brigades, as well as an assault Army Corps and sev-



1916 - Major of the Engineers, in war-time uniform.

Often the officers replaced the leggings with puttees or knee-high socks. The belt with a metal buckle decorated with the Savoy eagle in relief, was gradually substituted towards the end of the war by a brown leather belt of a type similar to the British Sam Browne belt.



1915 - Soldier, "Carabinieri Reali" (Royal Carabinieri), on foot, in wartime dress.

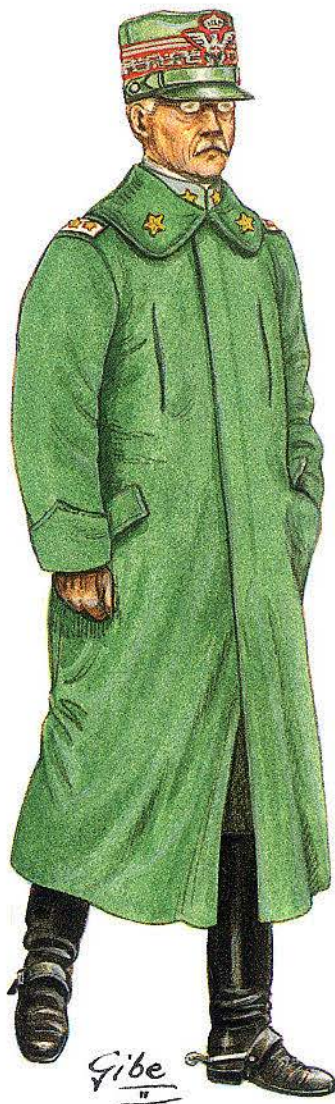
The cocked hat with its grey cloth cover and the black cloth collar on which the silver patches stand out, are typical of the Carabinieri. Personnel belonging to the mounted units wear the uniform and equipment of the mounted troops, maintaining the above mentioned details.

eral hundreds of artillery batteries and machine gun companies. There are now more than 700 aircraft and in the last few months of the fighting even more than 1,000 planes. The same increases can be noted in the number of vehicles. In fact, there are thousands of all types of transport available.

The remarkable total number of citizens under arms is amazing: it has been carefully calculated after the war at about 6,000,000 men (and this considering that the total population is

approximately 36,000,000) and the high percentage of losses reached about 15% of this total.

The entire mobilized army is now dressed in grey-green. Although deficiencies in the depots are significant on account of the Libyan War and the enormous number of men now under arms, it is, however, possible to meet the demands most satisfactorily, due to the high production rate in the factories during the months immediately preceding the war. In 1915 the soldiers are wearing the uniforms in use since 1909, as set out in the Ministry circular No. 24727 of 8 December. However, some variations can be noted which are adopted during the conflict and which are destined to change slowly but surely the appearance of the fighting soldier: after the first year of the war the long breeches tucked into boots give way to



1916 - Lieutenant General, in winter wartime uniform.

General officers wear the overcoat of the model for mounted troops. On the shoulder straps are sewn small silver rectangles with two golden stars on red cloth backing which indicate the rank.



1916 - Sergeant of the 10th Infantry Regiment "Brigata Regina" (the Queen's Brigade) in wartime uniform.

After March 1917 rank insignia consist of a ribbon and only two black stripes, always ending with the characteristic ornamental knot. The gas mask is often worn across the chest.

1917 - Artillery Lieutenant-airman, in wartime uniform.

The officers and NCOs of the various Corps and Services who join the aviation units maintain their original uniform but using freely the most comfortable clothing or the dress they prefer. However, all wear the special fibre helmet and the fur-lined leather jacket.



1918 - Bersaglieri cyclist, in wartime uniform.

In addition to the traditional plumes fixed on the helmet, the cyclist units are distinguished by the special turned down collar of the jacket.



the Zouave-type breeches. These are tied under the knees and completed by puttees, also in grey-green cloth, or alternatively by knee-high woollen socks. Despite being hardly practical puttees are generally preferred by all the troops obliged to live in the trenches. In 1916 distribution of a metal helmet is commenced. This is of the French "Adrian" pattern and at the beginning is light blue in colour as the helmets came directly from the depots of the French Army. As the war proceeds the soldiers get rid, as they always do, of everything that is superfluous and prefer to keep the most useful items regardless of their aspect. In this way, the narrow shoulder wings tend to disappear and where possible are substituted by a plain strip of material fixed by a button. The outside tunic pockets are more and more often used and the heavy items of equipment left aside in favour of lightweight essential items. In 1918 the helmet is protected by a grey cloth cover to avoid reverberation. Officers tend to wear the uniforms and equipment of troops more and more often, distinguishing themselves only by their rank insignia. Reduced in size and specially designed, rank insignia is in grey-green cloth as the traditional gold and silver insignia has been abolished. The table shows not only the ranks of officers but also those of NCO's and corporals. In this connection, it should be noted that the table must be considered together with the following remarks: at the beginning of the conflict officers' and warrant officers' triangular rank insignia on the cap is soon changed to the more traditional horizontal stripes; the rank insignia for generals always sewn on a silver rectangle is gradually integrated and in 1918 is as follows: Army General, Chief of General Staff of the Army (two stars, one crown and two gilt bars), Commander of an Army (two stars, one crown and one gilt bar), Commander of an Army Corps (two stars and one crown), Lieutenant General, Major General, Division Com-

1917 - Soldier, 19th Regiment "Cavalleggeri Guide" (Light Cavalry), dismounted, in wartime dress.

Cavalry units which are dismounted and redeployed as infantry keep the original uniform but do not wear leggings or spurs. They do, however, wear the accoutrements and gaiters of a special model.

Left.

1918 - Soldier, 243rd Infantry Regiment "Brigata Cosenza" (Cosenza Brigade), in wartime uniform.

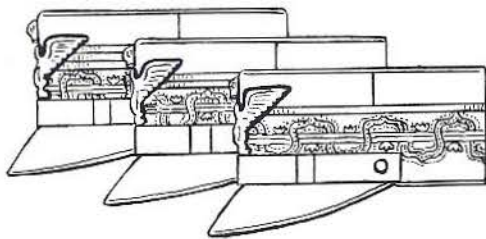
This is the simplest and most practical dress worn by infantrymen in the last months of the war. It should be noted that heavy and bulky equipment has been eliminated, a helmet cover has been adopted which is often completed by a badge, painted in black, depicting the regimental number below a royal crown.

1917 -- Dragoon of the "Genova Caval-
leria" Regiment (Heavy Cavalry), in
wartime uniform.

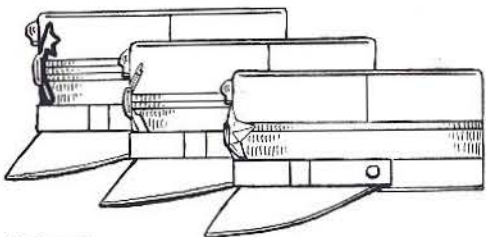
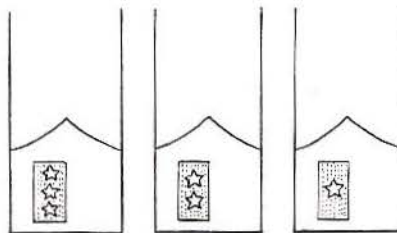
*The special distinctions which identify
the soldiers of this regiment are the
black Savoy cross painted on the
helmet, the entirely yellow collar and
the piping, also yellow, on the shoulder-
straps.*



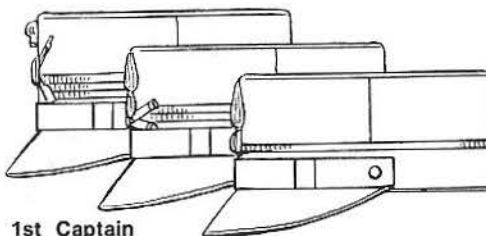
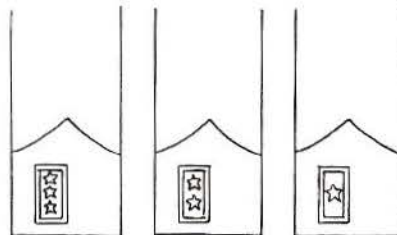
Rank insignia during the First World War



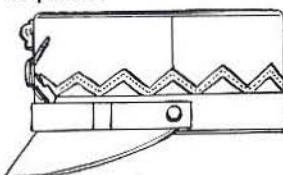
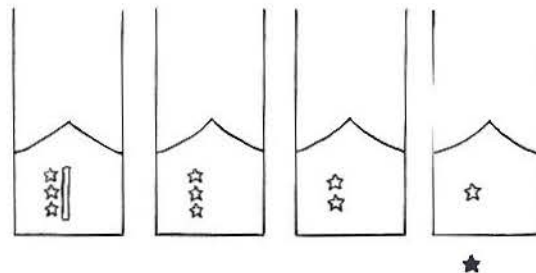
General of the Army
Major General
Brigadier General



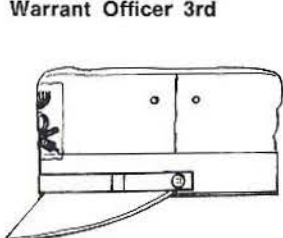
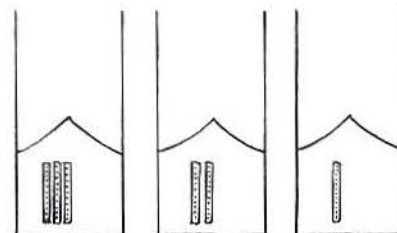
Colonel
Lieutenant Colonel
Major



1st Captain
Captain
Lieutenant
2nd Lieutenant
Aspirante



Battle Adjutant
Warrant Officer 1st
Warrant Officer 2nd
Warrant Officer 3rd



Sergeant Major



Sergeant



Corporal Major



Corporal

mander (one star and one gilt bar), Major General and Brigadier General (silver background only); after 1916 "aiutanti di battaglia" (literally battle adjutant), a rank created during the war, and the three ranks of Warrant Officers are distinguished respectively by three rows of black zigzag piping sewn in an upside down V with a single knot, three rows of black zigzag piping sewn in an upside down V, two rows of black zigzag piping sewn in an upside down V, and one row of black zig-

zag piping sewn in an upside down V; after 1917 sergeant majors and sergeants, keeping the traditional single knot, are distinguished by two thin stripes and one thin stripe respectively, in addition, of course, to the wide stripe.

The formation of new specialized services requires the promulgation of a numerous series of orders regarding the characteristic signs and badges: in this way, for example, bombardiers, flame-throwing personnel, telegraph operators, etc., are identified by badges

normally worn on the forearm and embroidered in black.

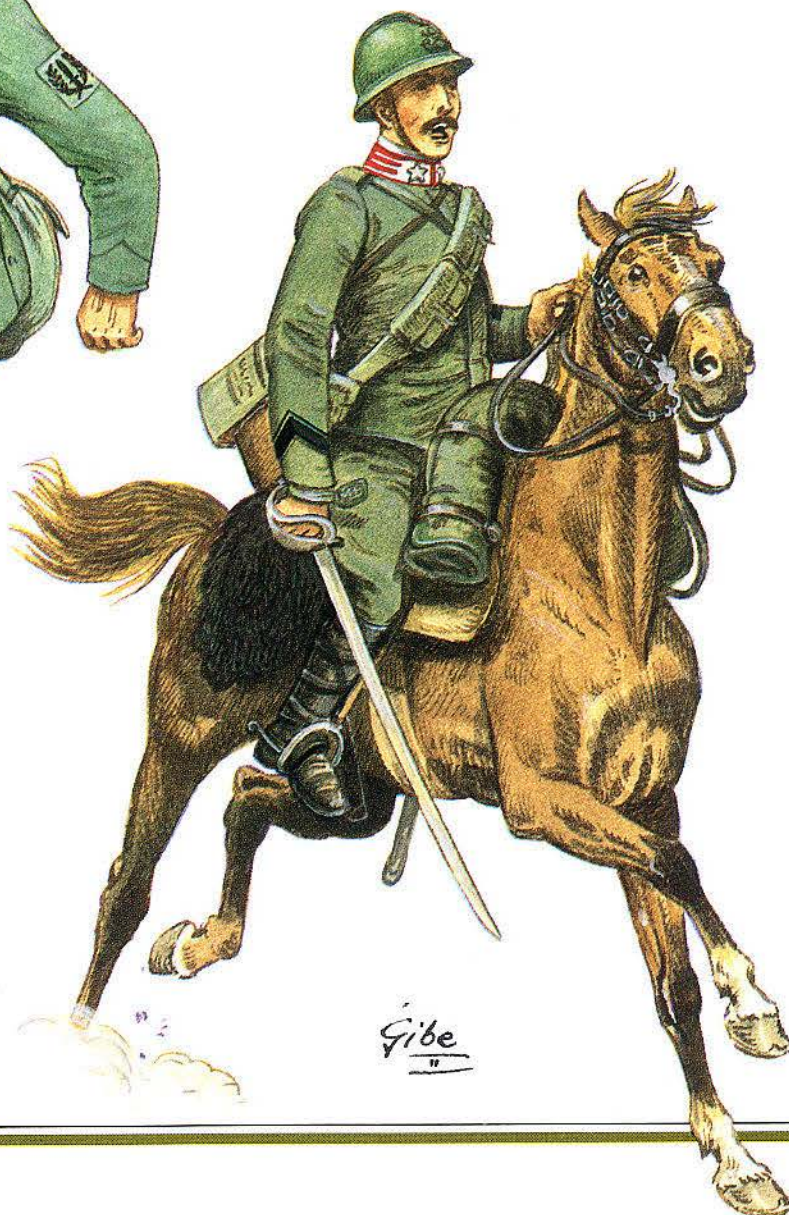
New collar badges are added to those of the peacetime army. Among others, the red, green or blue ribbon with three white vertical bars worn by machinegunners or the black flame-shaped collar badges worn by the assault units who set up a new tradition for uniforms by being the first to wear an open-collar jacket.

Gen. Valerio Gibellini



1918 - Guardia di Finanza (Finance Guard), in wartime uniform.

This man belongs to the Battalion Assault Unit, as can be noted from the special jacket with open lapels and the yellow collar badges, distinguishing the particular unit. In the same way all the troops of the various Corps and Services keep their own typical collar badges while the newly formed independent units wear the black double-pointed collar badges.



1918 - Corporal, 27th Regiment "Cavalleggeri Aquila" (Light Cavalry), in wartime uniform.

The bugle with the number 27 painted in black on the helmet distinguishes the regiment, which is among the first to liberate the town of Udine and the Friuli.



COMMAND AND CONTROL GROUND STATION "ALAMAK"

The "Alamak" system, together with "Mirak 20" and "Mirak 100-2", is a subsystem of the command and control center "Andromeda".

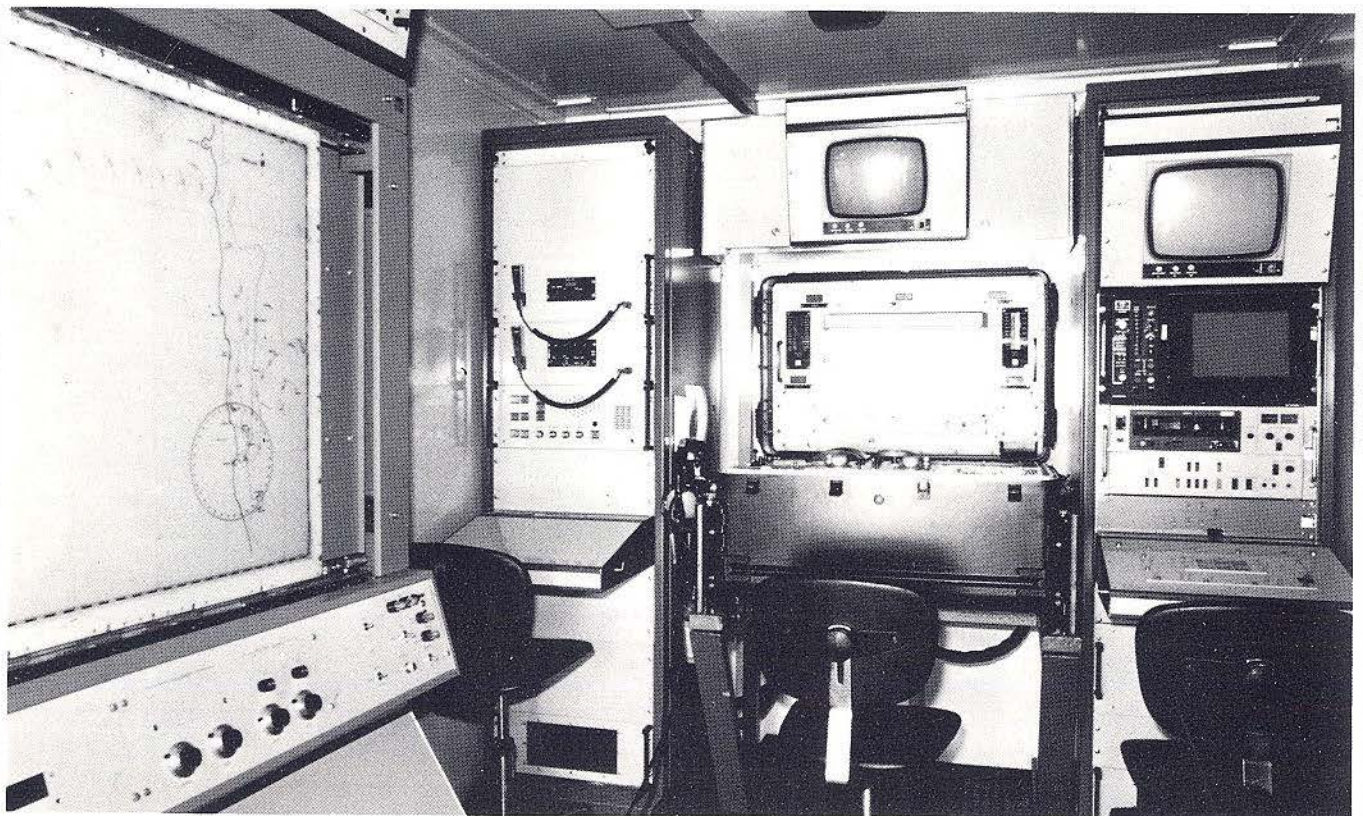
The "Alamak" system is designed to guide the RPVs constructed by Meteor and can be converted into a control station for ground or naval unmanned vehicles. The system is capable of gathering and memorizing the data supplied by the "Drones" during their operative missions, of visualizing them on video, and, moreover, of performing telemetric and on-map plotting operations.

With an additional kit, the system can be gyrostabilized when used aboard ships and aircraft.

Nearly all kind of generators can be used to supply power to "Alamak" station, which is also equipped with batteries capable of guaranteeing, in case of generator fault, a 30 min functioning of the system.

The "Alamak" station is available in two basic configurations: the "standard" sheltered version where the personnel can operate under the most severe enviroining conditions over extended periods of time; and the "Rid" version with the same performance characteristics of the "Standard" version, but with the possibility of being splitted into components, so that it can be located on terrains not reachable by vehicles.

The "Alamak" can operate under any climatic conditions, at temperatures from -20° to $+50^{\circ}$ centigrade, with wind up to 90 km/h (50 km/h in desert areas) and with an umidity not higher than 95%.





TACTICAL VEHICLE FIAT IVECO 40-10-WM (4×4)

The tactical vehicle 40-10-WM, designed and developed to meet a very wide range of operational requirements, is a versatile means of transportation that keeps unchanged the characteristics of the reconnaissance vehicles such as, e.g., good on-road speed, limited weight and size and cross-country capability.

The vehicle can be air-carried by C-130 "Hercules" or

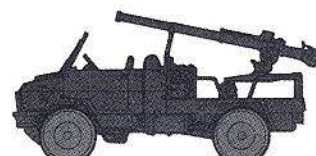
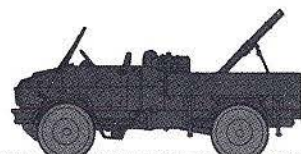
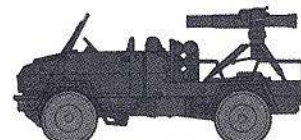
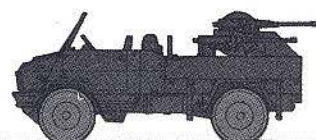
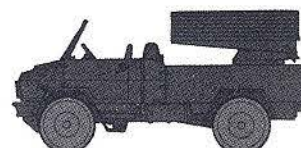
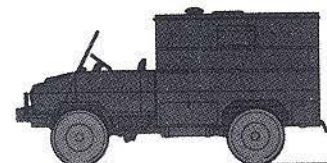
"Fiat G-222", air-dropped, or used as artillery tractor capable of towing 1,5 t guns.

The personnell carrier version can accomodate in the back 10 fully armed and equipped men or, alternatively, 1,5 t of materials, or the S 250 standardized shelter.

The 40-10 WM can also be produced in other specialized versions such as, for example, command post, communication center, ambulance (transport capability of 4 injured men) or weapon stand for any kind of armament (antitank, missile, and anti-aircraft systems,

single and multiple machine guns, recoilles guns, multiple rocket launchers, mortars).

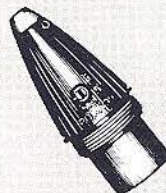
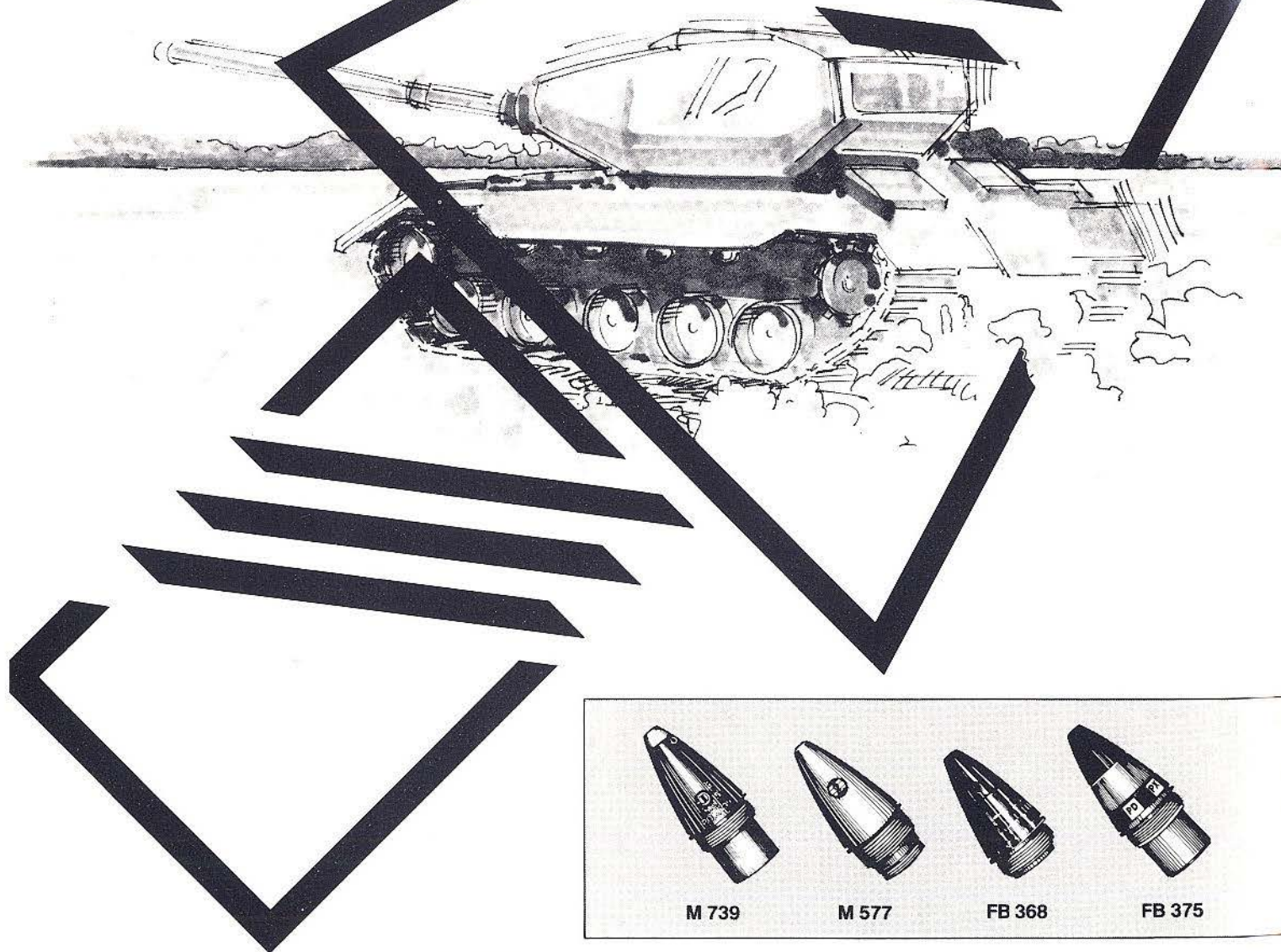
The vehicle, equipped with a diesel engine, has a maximum on-road speed of over 100 km/h; maximum gradient 60%, range 800 km.



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to meet the most demanding requirements of performances, reliability and quality standards needed for advanced ammunition.



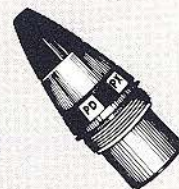
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Regional Security in the Middle East

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Edited by
CHARLES TRIPP
Research Associate, IISS

Published for
THE INTERNATIONAL INSTITUTE FOR STRATEGIC
STUDIES
by
Gower

C. Tripp (ed.): "Regional Security in the Middle East". International Institute for Strategic Studies. London, 1984, pp. 182. £ 4.20.

Middle Eastern security problems are not the simple result of differences between the various nations. These differences contribute to, but to an even greater extent security problems are a consequence of, the domestic instability afflicting the countries of the Arab world. Indeed, it should be remembered that there is no fundamental consensus on either the existence of certain Arab states nor the legitimacy of their governments. The Arab world is deeply divided by the "secularizing" tendencies represented by the "Ba'ath" parties, and by the recurring waves of "confessional" fervour. The Islamic Republic of Iran is the most striking example of the latter.

The outcome of the conflict between Iran and Iraq will have a decisive impact on the area's entire strategic picture. Resulting tensions could lead to the risk of a direct confrontation between the two superpowers, with obvious repercussions for the strategic balance of the entire world. The danger of nuclear

proliferation is another menace hanging over the area. It is very difficult to make predictions for this part of the world. There is the on-going conflict between Israel and the Arab states, fueled in part by the difficulty of establishing definitive relations with Egypt. These relations are made all the more problematic by the intractability of the Palestinian problem and the objective difficulty of solving it through the creation of a Palestinian state, not to mention the potential repercussions of such an act on the strategic stability of the entire area. The confusion surrounding these questions, which exists not only in Israel, but among the Arab states as well, became evident during the negotiations which eventually secured asylum for the Palestinian guerillas in Lebanon. The Lebanese question remains an open one, while a direct involvement on the part of the two superpowers looms on the horizon as a more and more menacing possibility.

The articles in this volume reflect the uncertainty and the difficulty of predicting the future for this area. One fact, however, is found in all the possible scenarios. Outside intervention, pressure, or mediation alone will not bring strategic stability to the Middle East. This goal can only be reached following the establishment of new internal equilibriums which depend less on factors of military strength than on the creation of a greater domestic political cohesion within the various countries of the region. Given this over-all picture, the West must search for reasonable compromises which lead to a status quo that the region can accept. Pure military pressure and outside interference can at best solve secondary problems. They cannot, however, establish a stable equilibrium in an area that is vital to the West, given the economic importance of its oil reserves.

Carlo Bess

A. WOODCOCK
M. DAVIS

LA TEORIA DELLE CATASTROFI

Un nuovo modo
di analizzare i mutamenti delle cose:
la prima esposizione divulgativa
della teoria di René Thom

A. Woodcock - M. Davis: "La teoria delle catastrofi" (The Catastrophe Theory), Garzanti Ed., 1982, pp. 187, L. 12.000.

The application of the vulnerability theory and the catastrophe theory in the field of decision-making is a matter of great interest which throws new light on the so-called logic of action or praxeology.

The potential uses of the two theories are tied to the fact that they permit the penetration and acquisition of synthesized, convincing explanations for the qualitative changes which affect the various factors influencing different problems.

Normal logic, the basis for the problem-solving method codified by the Defence Chiefs of Staff, is Cartesian. It is founded on the principle of the excluded third and assumes that a complex problem can be divided into many elementary ones which can then be examined one by one with the result that their separate analytical deductions can be synthesized into scenarios which gradually become more and more complete and thorough. This logical approach has been criticized by many for not taking into account the constant change



which affects the various factors of each problem.

A cybernetic-type approach, that is to say, a "retroactive" approach rather than a "cascading" one, seems to correspond best to the logical foundations of a method designed to produce decisions in conflict situations. The two theories alluded to earlier contain reference structures which can serve as the basis for a progressive – and often cyclical – investigation into the terms of the problem. Thus they provide frameworks for reference which can help the decision-maker to act in the most rational way possible, fully aware of the realities he is confronting.

The catastrophe theory – which this very interesting book is attempting to popularize – provides models that illustrate what happens when physical structures, or even social systems, are subjected to forces involving a qualitative change which results in the destruction of the previous structures and the creation of new ones. Using seven elementary model-catastrophes, the theory is meant to lay out the mechanisms which allow for the transformation of the quantitative into the qualitative, and which permit the actions and reactions needed to accelerate (in the case of an attack against an enemy, for example) or slow down (in the case of a defence) the structural collapse of the organism subject to stress.

The theory's applications are potentially widespread, not only in the field of physics, but also in the "soft" sciences, such as sociology, psychology, strategy, economics, etc.. The book presents interesting, concrete examples in a plain, convincing way without resorting to complicated logorhythms. The examples give a lively, concrete idea of the theory's intrinsic possibilities. There is, however, a major danger to be avoided. Many are inclined to reject new theories either because they don't feel like making the effort to study

them or because they hold that the pragmatism gained through common sense and experience is more than sufficient for the concrete problems that need to be faced.

But without implicit or explicit models to refer to, no problem can be examined, and the course of action to be taken is eventually determined by nothing more than casual improvisation and diletantism. The catastrophe theory does not provide a series of equations with which to solve problems, but rather a set of models to interpret them, while evaluating the ways in which structures are modified by variations in the different internal and external factors governing them.

It can thus be a very useful theory for those involved in a changing reality or a conflict situation.

Carlo Jean

SPECIAL REPORT

The Soviet Union and Ballistic Missile Defense

Jacques K. Davis
Robert L. Pfaltzgraff, Jr.
Uri Ra'anan
Michael J. Deane
John M. Collins



INSTITUTE FOR FOREIGN POLICY ANALYSIS, INC.
IN ASSOCIATION WITH THE FLETCHER SCHOOL OF LAW AND DIPLOMACY, DARTMOUTH UNIVERSITY

J. Davis and others: "The Soviet Union and Ballistic Missile Defense", Institute for Foreign Policy Analysis Inc., Harvard (Mass.), 1983, pp. 71, \$ 6.50.

United States strategic thought gives absolute priority to deterrence, distinguishing it from

defence as understood in the traditional sense of the word. Classic strategic thought considered deterrence to be the collateral effect of a true operational capability. According to the American conception of deterrence, despite all the different theories, such as flexibility of use, limited strategic options, NUT (Nuclear Utilization Theory) and NUTS (Nuclear Utilization Targeting System), deterrence depends on the threat of an escalation that will lead to mutual destruction, in other words, MAD (Mutual Assured Destruction). In this context, priority has been given to strategic offensive arms, in part because the defensive option could not guarantee similar results.

Furthermore, the development of deterrence policies independent of policies for a plausible and acceptable defence has gradually led to there being two distinct conceptions of use and structure: one for the forces assigned to deterrence and one for those assigned to defence. The change in the balance of military strength between the two superpowers, a change not favourable to the USA, has progressively eroded MAD's credibility and essentially limited its validity to within the borders of the United States. On the other hand, the USSR has always followed a different doctrine. Soviet strategic scholars and experts have always concentrated on defining the ways in which a nuclear war could be fought and won, or at least survived. This is not to say that the USSR intends to launch a deliberate strategic nuclear attack. It only means that the Soviets are acquiring the capability to do so successfully, preparing themselves not only to strike the United States nuclear forces, but, at the same time, to limit their potential losses from a United States' retaliatory strike.

This could bring about a change in the perception of the United States' strategic power and its

ability to achieve its designated security objectives.

The only way for the United States to overcome this obstacle is to make a major effort in the area of strategic defence while formulating an acceptable operational doctrine that abolishes the artificial distinction between deterrence and defence.

The study under review is part

of the extremely dynamic renewal which characterizes current United States strategic thought. This renewal began with Schlesinger in the mid-70's and has gone on to include the "Countervailing Strategy", the concepts contained in the FM 100-5 Operations of the U.S. Army, 1982 Edition, the longer-term concepts of the Airland Battle 2000, and President

Reagan's Star Wars programme. The renewal took definite shape following the adoption of MAS (Mutual Assured Survivability) as the goal of United States defence planning, and it could bring about a profound change in the world strategic equation while creating new conditions for European security.

Carlo Jean

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*Réflexions sur l'Europe
avec le centre d'études
du Mouvement des démocrates*

Editions Ramsay

Michel Jobert: "Vive l'Europe libre. Réflexions sur l'Europe avec le Centre d'études du mouvement des démocrates", Ramsay Ed., Paris, 1984, pp. 208, FF. 69.

To make Europe truly free, to make it the subject and not the object of high-level politics (beginning, naturally, with the problems of military defence): this is the unequivocal objective which Michel Jobert wishes to bring to our attention in his rather short book whose style is at times telegraphic, and perhaps a bit overbearing, but whose content is formidable indeed. The author's line of thought does not stray far from a theme which has been a part of French post-war politics for some time now. Its essence is a sometimes irrational search for a maximum degree of autonomy made concretely possible by a shrewd exploitation of the political possibilities created by a "force de frappe".

Though the military theme is the "clou", it is not analysed "in vacuo", being firmly planted in a rich global context whose reference points run from joint agricultural and industrial policy to the underlying cultural frame-

works. Naturally, the author includes purely political factors, which must be addressed even if the subject at hand is defence policy.

The title of the chapter on military considerations is significant: "Europe, Strategic Wager". Nothing more than a wager – according to the author – in a high-stakes game (to which Europe is not invited) run by the two superpowers. These two giants might come to an agreement, but if they do, it will be without, and perhaps even against, Europe. This situation must therefore be changed through the creation of a common, autonomous defence system, because, "our continent will not become an area of peace until her peoples assume the burden of its defence". Though many of the final goals proposed by Jobert may be objectively acceptable, and have for some time now certainly been a very real cause for confrontation in different political and strategic centres, the doubts (and the difficulties) concern the "how" and the "when", beginning with the choice of the French nuclear force as the exclusive core of the new European defence system, "...today, (this is) the only element of independence available to Europe. Great Britain's forces are tied too closely to the American military system to be truly independent". Without looking at the complexity of current technological requirements, a factor which certainly raises doubts concerning the "force de frappe"'s true operational independence from the USA, one might wonder if this solution does not indeed create a Europe independent of the two superpowers, but, nonetheless, "dependent" on France, whose interests might not always coincide with the other, non-nuclear European nations? In fact, on the fundamental question of operational control, Jobert's project leaves no room for doubt: "...until the dream of a united European people becomes a reality, it is

better that control of this force be left with a single country. France cannot help but be the only nation to command it". Given his solutions, Jobert's analysis does not do justice to the potential rôle of England and the future relations of that country with a continental Europe whose political and military makeup can not leave her indifferent. As for the United States, that nation must abandon the Mediterranean (along with the Soviets), accept the fact that the Atlantic Alliance is evolving into a strictly European organization, and help Europe develop a defence industry of its own (including artificial satellites, without which the use of nuclear arms would still depend on information provided by the United States).

If nothing else, these objectives are certainly simple and clear, and yet they do not seem to allow for the fact that international politics is, and always has been, a clash of interests. The birth of Jobert's Europe would run contrary not only to the interests of the USSR, but also to those of the United States, and even Great Britain: furthermore, as a third force, it would infringe on the prerogatives of both superpowers. Up to what point is this either possible or desirable? These and other concrete questions are not fully answered by the book. Nonetheless, it is still a valid contribution to the debate over a new Europe, and thus to the debate over a military Europe: "...all true partisans of an independent Europe must consider the swift creation of a defence policy to be an indispensable condition to its existence". Here, Jobert is right; and all one can do is hope that the number of these "true partisans" continues to grow.

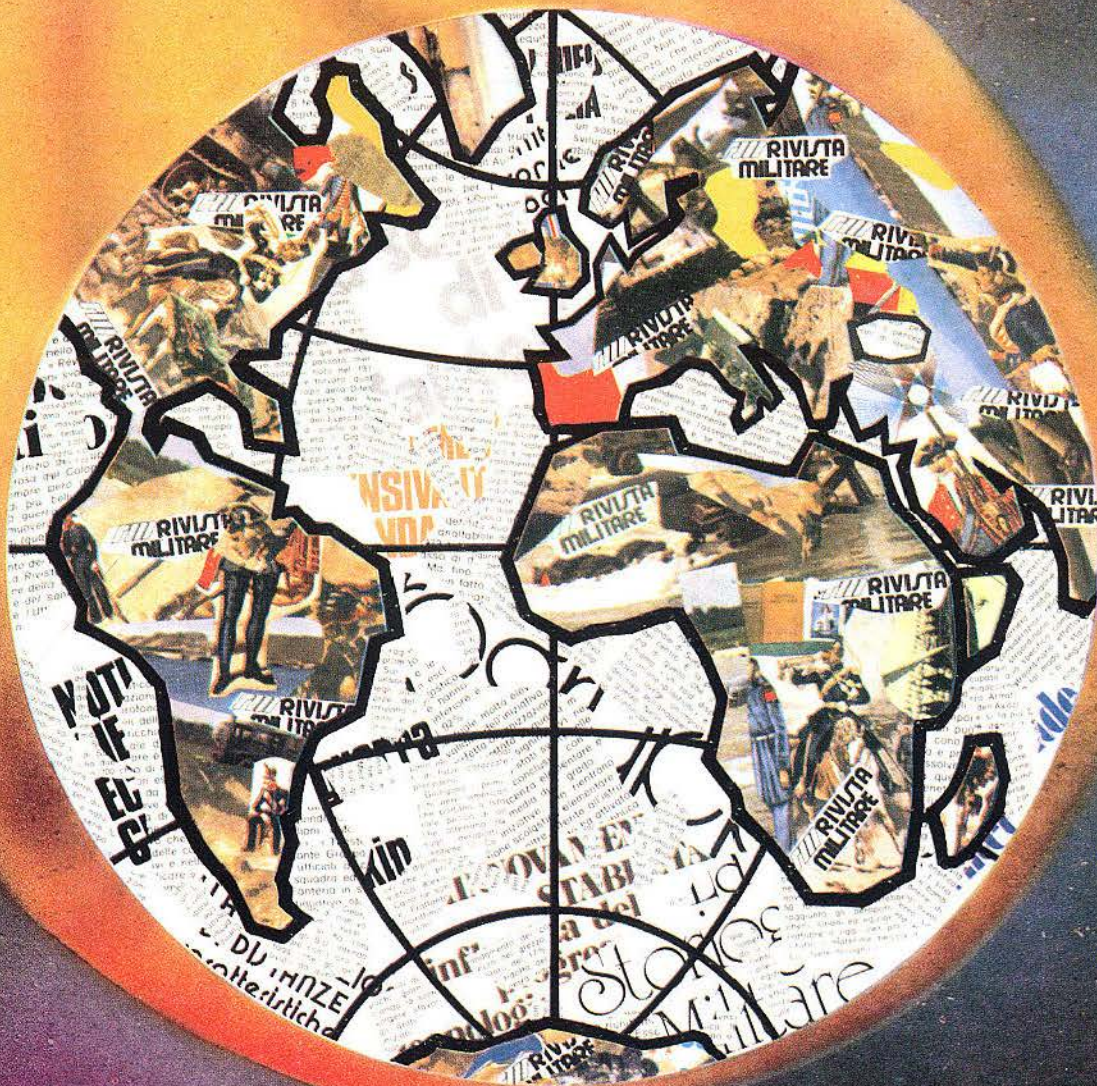
Ferruccio Botti

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BRITISH TANKS
AT CAMBRAI



THE MILITARY
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CONTENTS

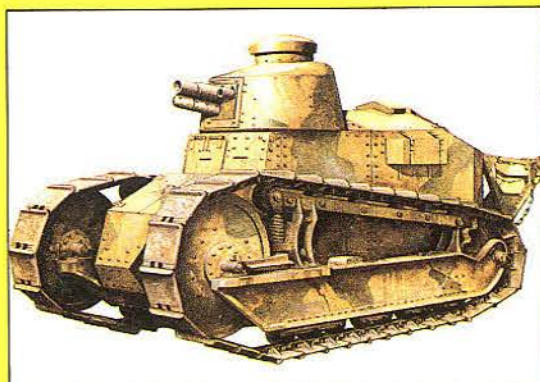


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**British Tanks
at Cambrai.**
(Ciro Di Martino)

2



**The Military Leader:
What Future?**
(Pietro Re)

14

Artillery.
(Luigi Ramponi)

22



Grid Defense.
(Fabio Mini)

30

**Airborne Electro-Optical
Systems.**
(Basilio Di Martino)

42

**Public Information:
Unknown Quantity?**
(Marcello Colaprisco)

50

**The Royal Italian Army
1919-1933.**
(Valerio Gibellini)

57



Technical Data.

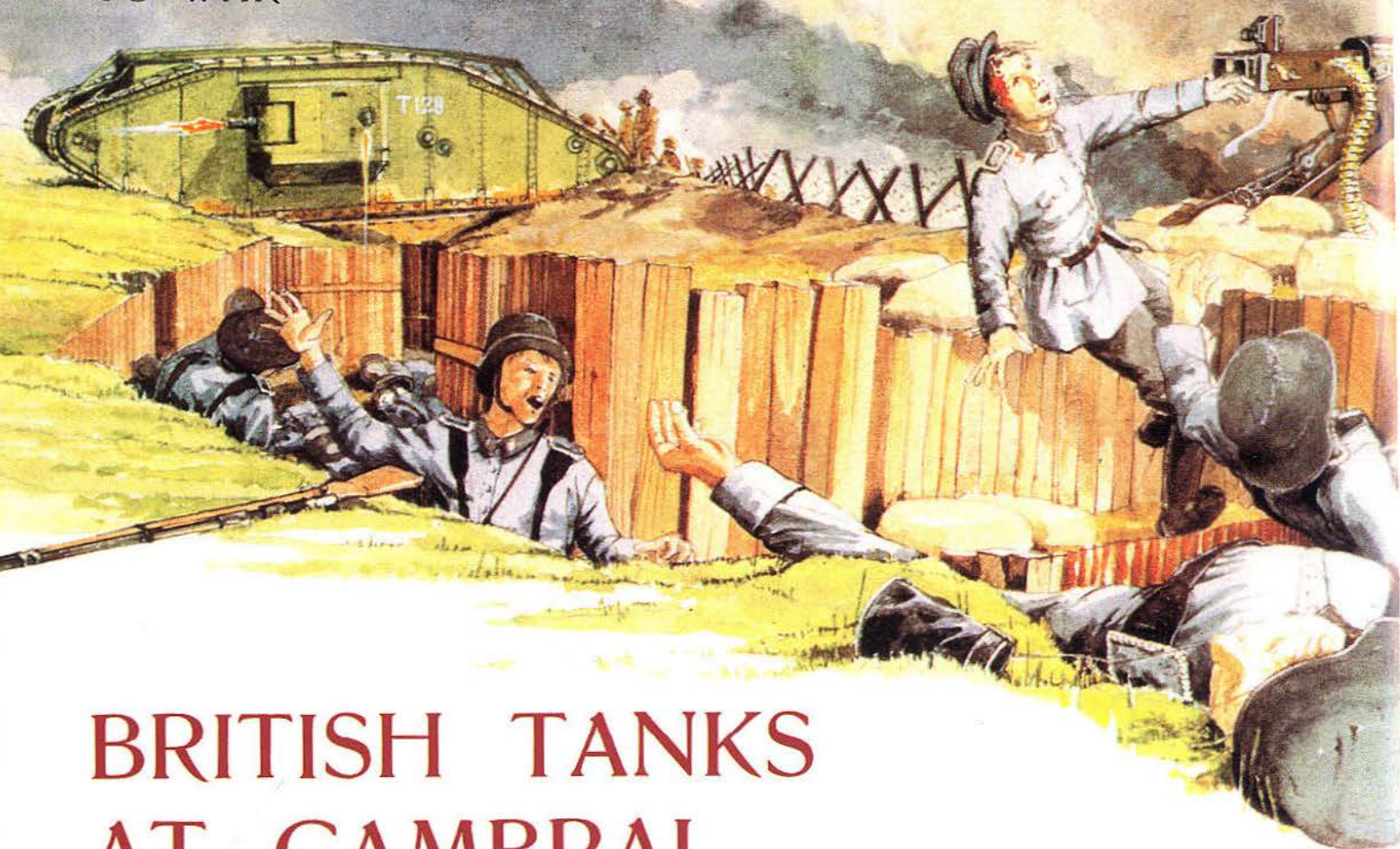
65

Book Reviews.

74

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24 MAY 1915
70 YEARS AGO ITALY WENT
TO WAR



BRITISH TANKS AT CAMBRAI

A HIGHLY INSTRUCTIVE TECHNICAL SURPRISE IN NOVEMBER 1917

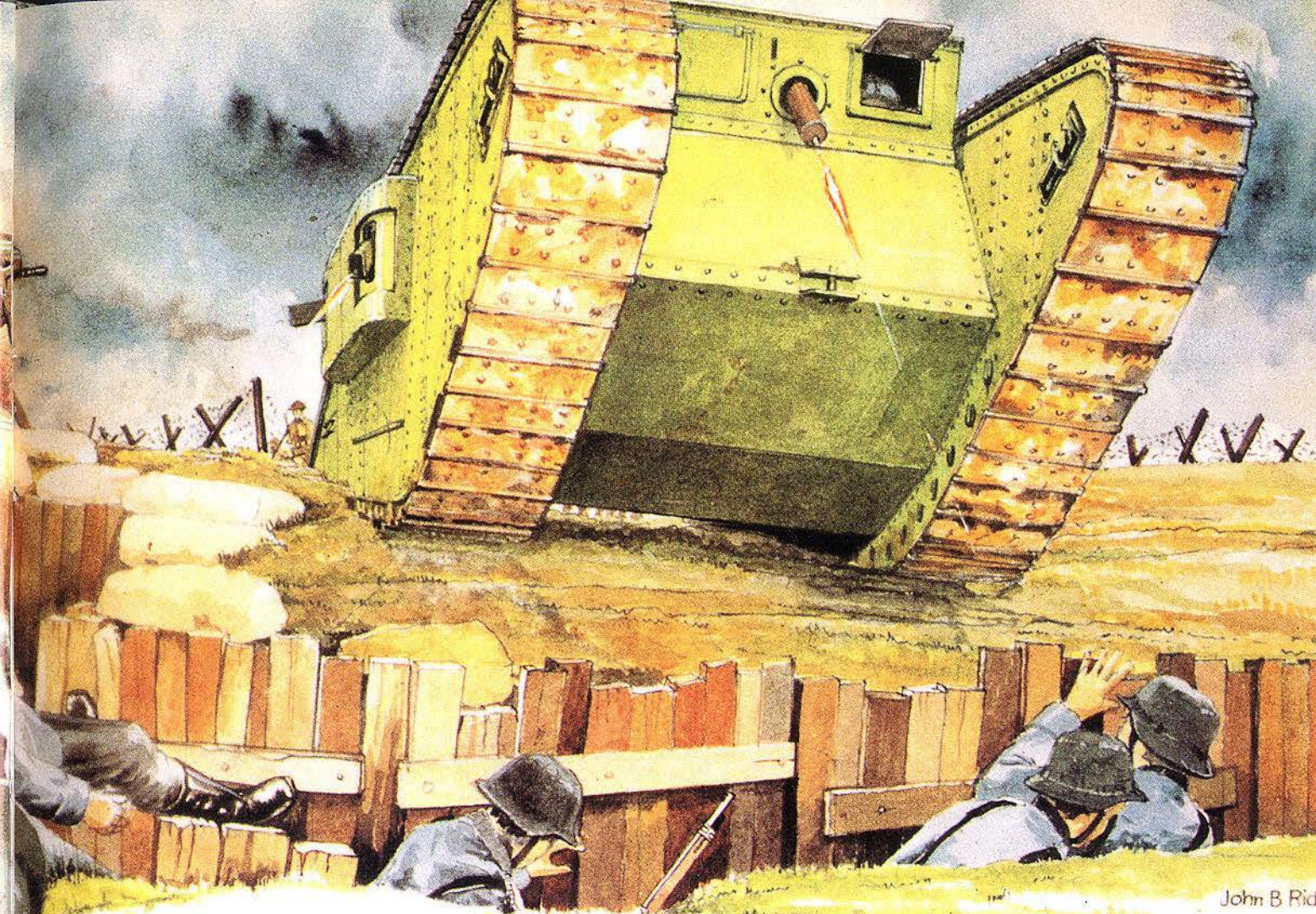
After all the studies that have been carried out, to go back now and review events and aspects of World War I could be considered as a fruitless search for something new.

This is made all the more apparent by the fact that the 70 years or so separating us from that conflict have been characterized by scientific and technological innovations and advances of unprecedented proportions.

The overall impression is not so much of ordered and gradual progress but of a rather frightening case of actual mutation. As a result, the events of the 1914-1918 war have been projected much further back than just 70 years.

Nevertheless, not everything has been engulfed by this maelstrom of mutating phenomena of unheard of proportions. This confirms the lasting value of par-

ticular events which, having survived obsolescence and oblivion either completely or in certain of their aspects, allow credence still to be given to history as a source of information that, although always linked to the past, affords us some insight into the present and even allows us to make reliable projections regarding the future. One of these events is the battle of Cambrai, which was fought between 20th November and 6th December 1917. In his book "Tanks in the Great War", with understandable and well-grounded enthusiasm, Col. Fuller describes Cambrai as the first great tank battle in the history of war and, whatever the judgment of future historians might be, one of the most noteworthy battles ever fought.



THE SCENARIO

The general situation in Autumn 1917 was characterized by the aftermath of the partial failure of the offensives of 1915, 1916 and Spring-Summer 1917. All three offensives had been preceded by massive and prolonged artillery preparation which merely tore up the ground without, however, completely eliminating machine gun nests or barbed wire, the main obstacles to any attack.

Attempts were thus being made to find something new which would allow the deadlock of trench warfare to be broken.

According to the convincing assertions made by Liddell Hart (*"La Guerre Mondiale, French tr. published by Payot in 1932"*) the main idea of the supporters of the early tanks was to launch them in massed surprise attacks.

This idea, as set out in a memorandum of the British

Supreme Headquarters in February 1916, was first applied when some fifty tanks were deployed in the Battle of the Somme (15th September 1916) as a means to re-establish the initial aims of the attack, now in a state of complete disarray.

Incomplete and overhasty preparation, the inevitable mechanical shortcomings of the early machines and their deployment in twos and threes, i.e. disregarding the principle of the concentration of effort, cost the venture all possibility of a resounding success. Nevertheless, the 15th September 1916 saw the introduction of firepower, movement and protection combined in a single weapon, which had hitherto been regarded as exclusive to those fighting on the seas.

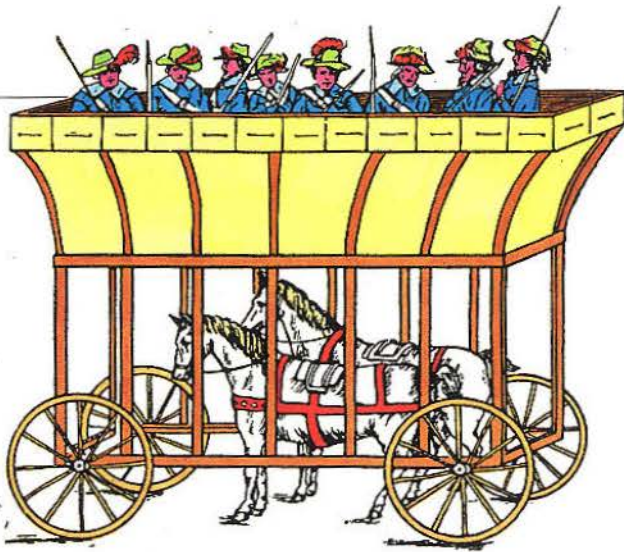
Of the 49 available tanks, only thirty or so succeeded in reaching what would now be called the start line. Nine of the latter advanced together with

the infantry, a further 9 failed to keep up with the foot-soldiers, although they proved useful in mopping up operations, 9 had mechanical failures and 5 became bogged down in shell craters.

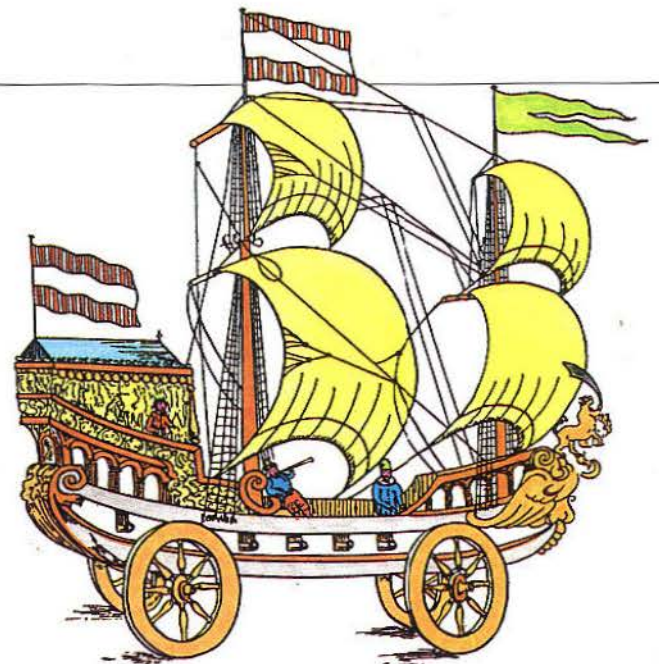
Despite the persistence of adverse factors (e.g. mechanical problems, bulkiness, environment, mode of deployment still slightly influenced by unconscious constraints or determined by the procedures adopted in nearly three years of fighting) slightly better results were achieved by the French the following Spring, north of Rheims, on 16th April 1917.

The objective of this first deployment of tanks by the French (eight companies of Schneider tanks) was to effect a rapid penetration of the Chemin des Dames area. Although better than the British performance in the Battle of the Somme, the results were anything but satisfactory and left in their wake doubts and prejudices, most

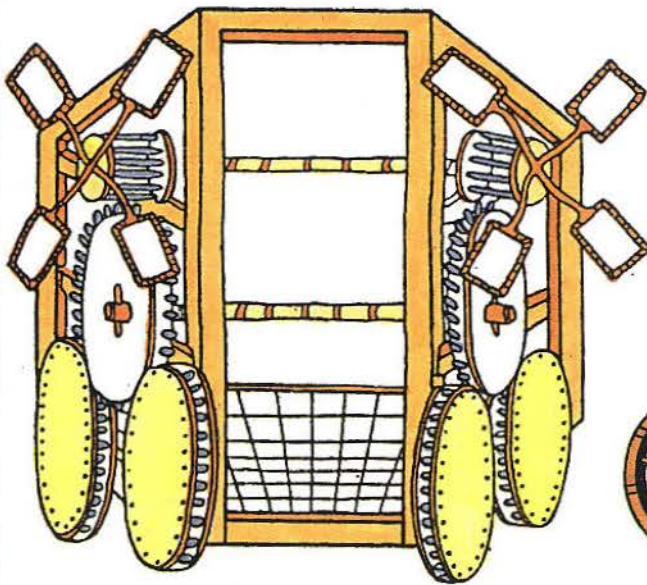
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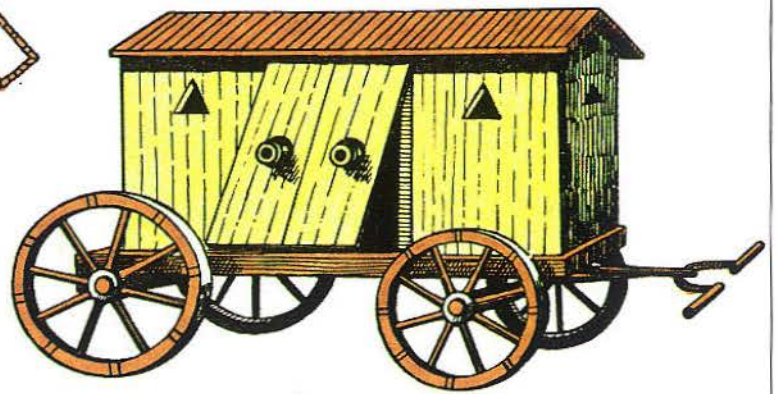
Scottish War Chariot, 1456.



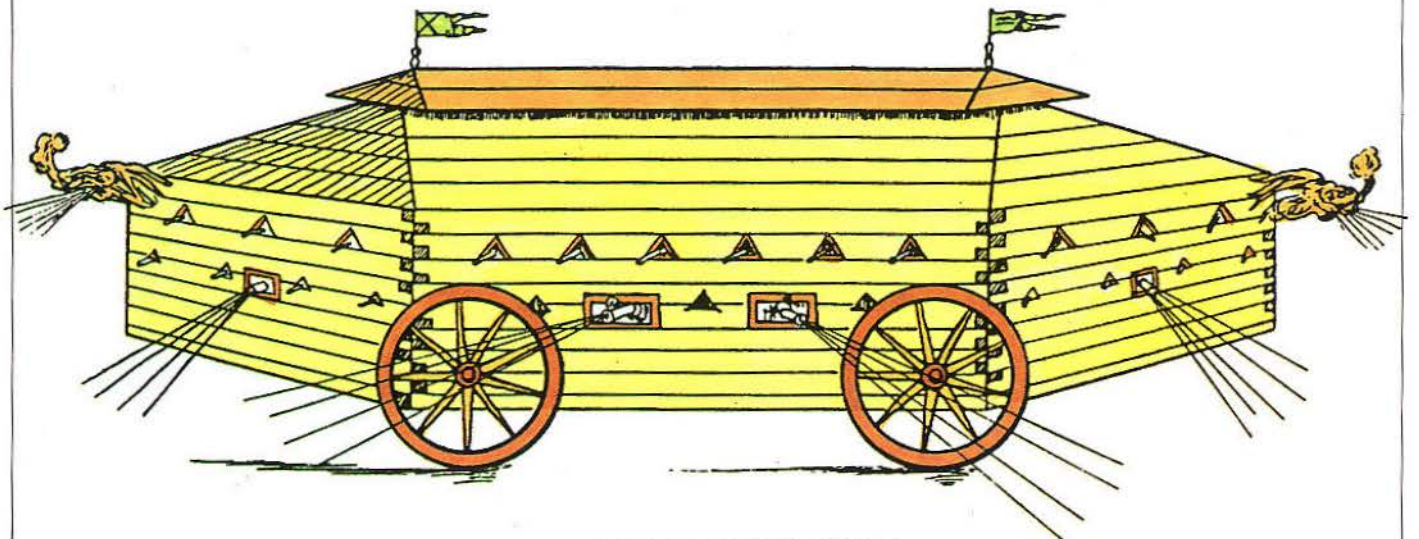
Stevin's land ship, 1599.



Valturio's War Chariot, 1472.



16th century Assault Chariot.



Holzschuher's Battle Chariot.

of which persisted until the battle of Cambrai.

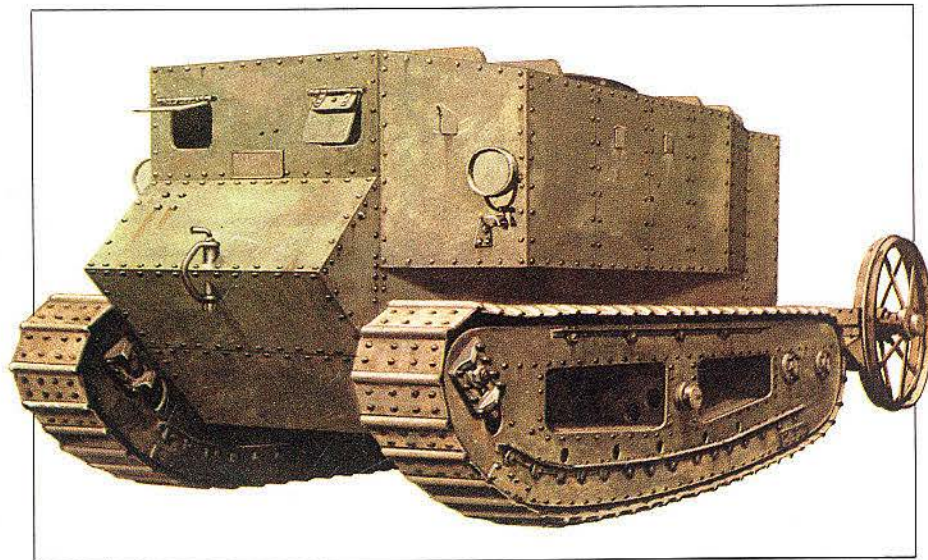
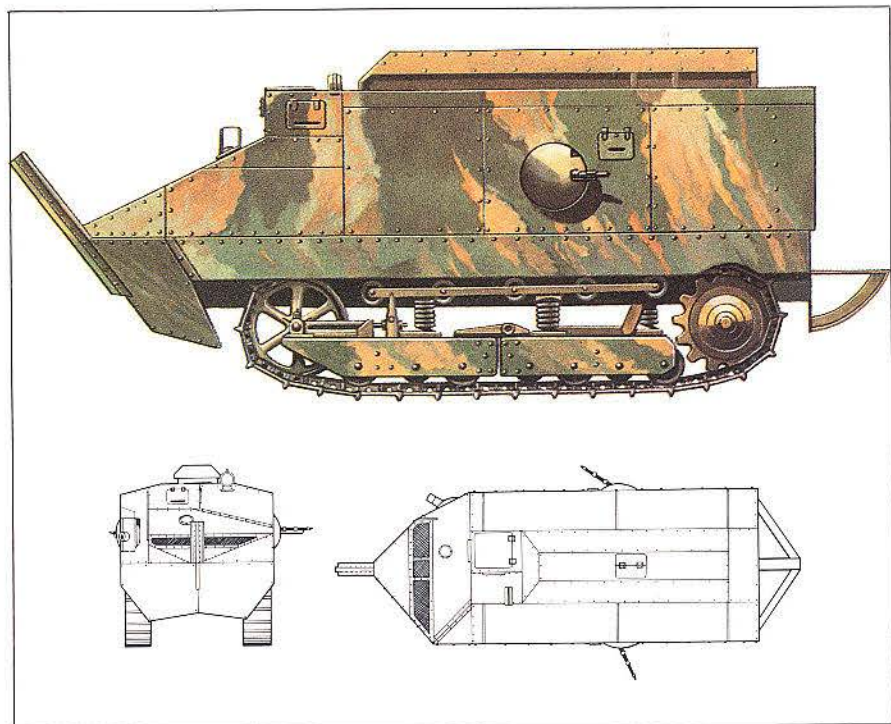
These were the first and best known concrete attempts to solve the problems involved in tank deployment. They were passionately upheld by the supporters of the new weapon and viewed with considerable skepticism by those whose mental inertia prevented them from accepting any innovation that was not the result of step by step evolution. Of course, these attempts were accompanied both by raised hopes and confidence and also by disappointments. There was also a lot to be learned from them.

The same lessons were even more obvious after the battle of Cambrai. One of these will be discussed immediately as it was taken into account in planning and organizing the Cambrai operation, i.e. the need for the tanks of the time, and to a certain extent also modern tanks, to operate over terrain that has not been damaged too much by artillery fire.

An examination of how the Cambrai operation came about is of fundamental interest as regards both the planned action procedures, although not all were actually implemented, and the experience thereby acquired.

The prelude to Cambrai was the third battle of Ypres, which began on 31st July 1917 and ground to a halt in the mud of Passchendaele three months later.

The main lesson to be learnt was, as we have seen, that the customary procedure of using prolonged massed artillery preparation made the terrain over which the attack was to take place practically impassable. Consequently, on the 3rd August of the same year, Col. Fuller made an alternative recommendation to Tank Corps HQ, preceded by an introduction in which he stated that, from a tankman's point of view, the third battle of Ypres could be considered as over. To insist on using tanks under those conditions would not only lead to the loss of good vehicles and even better men but also to an inevitable decline



Top.

French "Schneider M.16" tank. This vehicle had several structural defects and was also vulnerable to light artillery fire. Four hundred were commissioned in 1916 and it was used for the first time at Chemin des Dames in 1917.

Above.

The British "Little Willie" tank, the first armoured fighting vehicle. It was nothing more than a large armour-plated box mounted on tracks. Tried out in 1915, it was to be equipped with a 6-pounder mounted on a revolving turret. This solution was however abandoned, as the centre of gravity was too high.

in the morale of the infantry units and tank crews.

This convincing introduction was followed by an alternative recommendation that, in order also to raise British prestige, a tank attack should be carried out on St. Quentin before the onset of winter, as a strategic prelude to a subsequent (Spring 1918) thrust towards Valenciennes.

After discussions lasting a whole day, during which the difficulties involved in mounting a combined Franco-British operation became only too apparent, and it was seen that the latter would not be compatible with the simplicity and rapidity of action considered necessary for the success of the new tactic, a second and less ambitious plan was proposed the day after, 4th August.

This plan called for a tank raid in strength to be carried out to the south of Cambrai. The emphasis was laid on the rapid and violent nature of the raid, the aim of which was to hit enemy personnel and weapons

in order to cause serious disorganization and demoralization.

The raid was to be of 8-12 hours duration so as not to allow the enemy time to concentrate the forces required for an adequate counter-attack. This limit was subsequently extended to 24 hours, although the other operation parameters remained unchanged. In his book, Fuller summed up the latter clearly and concisely, as follows: "Advance-Hit-Retire".

The zone chosen, i.e. the Cambrai region, where the Germans had carried out a deliberate withdrawal in March 1917, was held to be suitable for the operation.

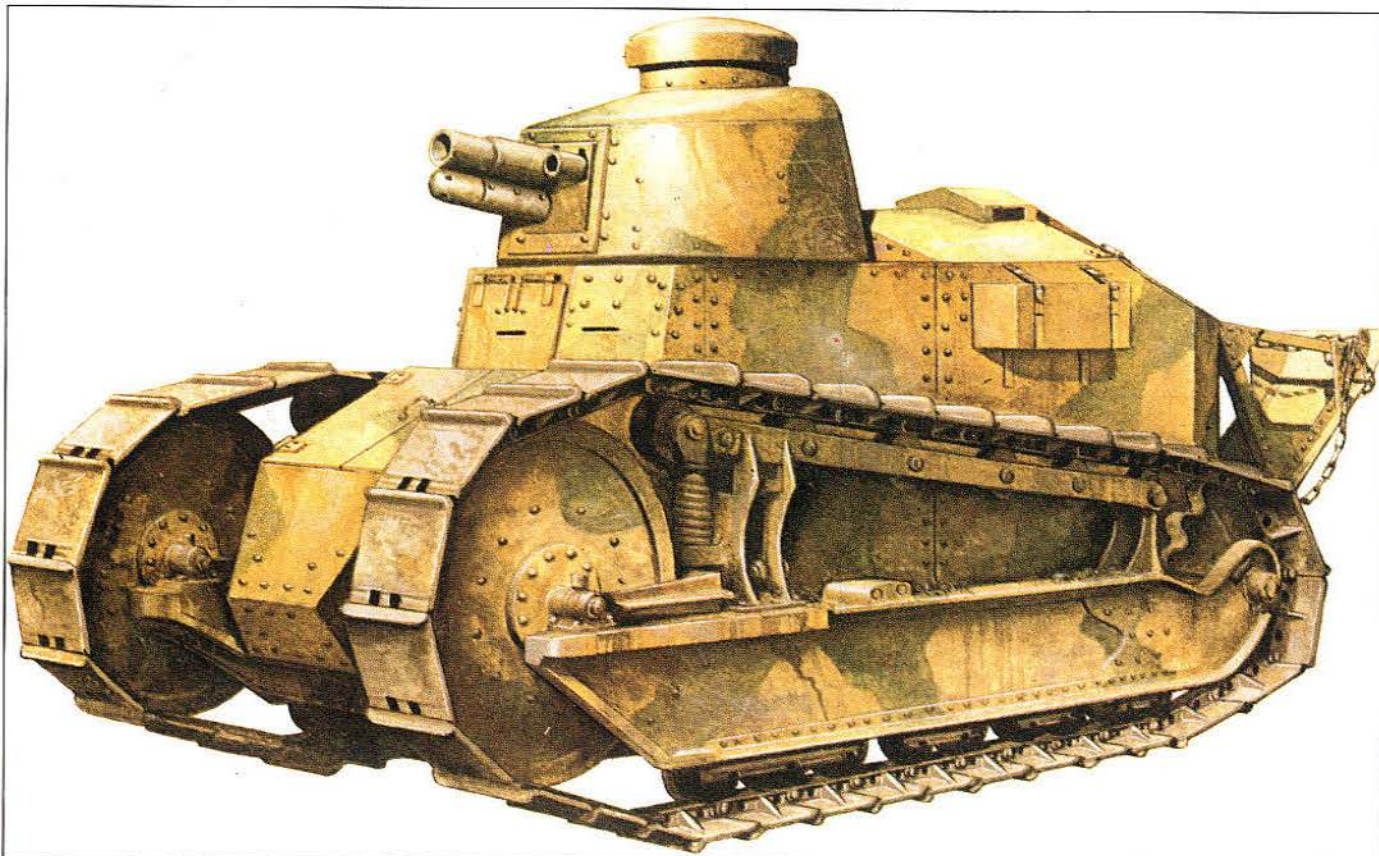
The zone was delimited on the left flank by the Canal du Nord (now in the dry period) and on the right flank by the river Escaut and the canal branching off it. On the ground it consisted of a corridor 8-10 kilometres wide running South-North and characterized by five topographic features in a West-East direction:

- the Gouzeaucourt plateau, attack position;
- a large ridge sloping down to the Escaut at Marcoing;
- the Flesquières crest;
- the hollow in which the villages of Anneux and Cantaing are situated;
- the subsequent crestline of Bourlon, with the wood and village of the same name.

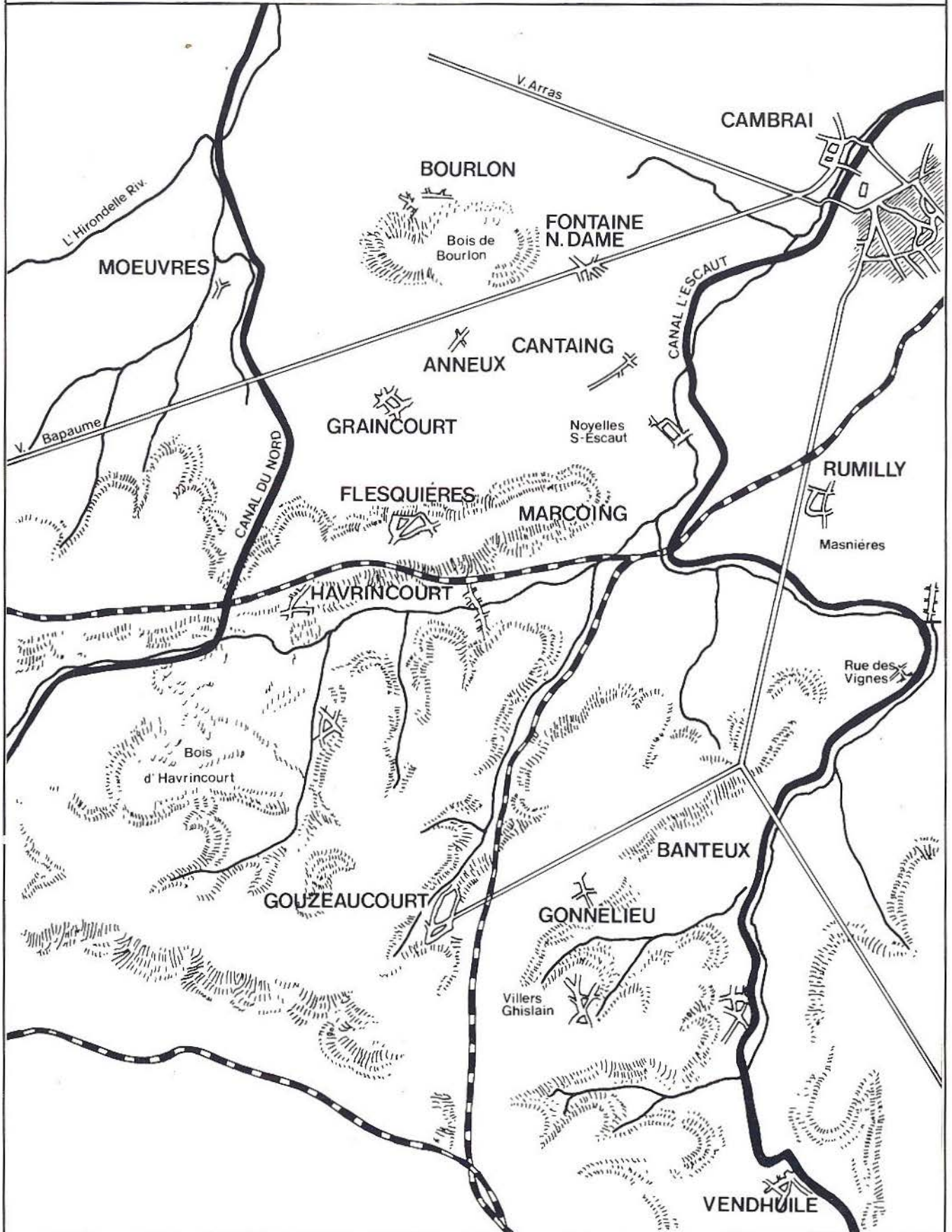
THE BATTLE PLAN

The plan has already been seen to consist essentially in the massed deployment of tanks in a violent surprise attack to replace the heavy artillery bombardments that had been used up to that time.

French "Renault F.T.17" tank. Designed in 1916, this vehicle weighed 6.7 tons, mounted a 37 mm gun, for which it carried 237 rounds, and had a 2-man crew. The Renault F.T.17 was also used in World War II.



OPERATIONS' ZONE



The overall plan of the British 3rd Army entailed:

- breaking through the Hindenburg defensive line through the corridor between the Escaut canal and the Canal du Nord;
- occupation of Cambrai, the Bournon wood and the crossing of the Sensée river;
- cutting off the enemy forces in the area south of the Sensée and west of the Canal du Nord;
- exploitation of the breakthrough in the direction of Valenciennes.

The tanks' role in the operation was to open up a path for the infantry. The subsequent exploitation of the success of the operation was to be carried out by the cavalry as far as the Sensée river. Surprise was to be pursued at all levels, taking all the necessary precautions to achieve this end.

The forces allocated to this ambitious plan consisted of the 3rd and 4th Army Corps, i.e. a total of 6 divisions, a cavalry corps comprising two divisions, 381 battle tanks of the Royal Tank Corps, reinforced by some hundred or so older tanks in a supporting and ancillary role, i.e. a total of 476 tanks, plus about a thousand artillery pieces.

The 381 battle tanks were of the Mark IV type, each weighing 28 tons and having an average speed of 3 Km/hour, a crew composed of 1 officer and 7 other ranks and the capability of crossing trenches up to 3 metres wide.

As far as armaments were concerned, the tanks were divided up into "males", with two 58 mm guns and 4 machine guns, and "females" equipped with only 6 machine guns.

The German defences consisted of the network of positions known as the Hindenburg Line and included an outpost zone and three main lines of defensive trenches: the Hindenburg Line proper, the reserve Hindenburg Line and the Beaufort-Masnières-Bournon line. The latter was still incomplete.

All that remained of the original plan of attack were the

essential parameters of surprise to be achieved by the massed deployment of tanks, the tactic of using tanks followed and protected by infantry, and the sector chosen for the operation.

The other essential features of the original idea had been modified: the raid had become a large-scale offensive with objectives lying deep in enemy territory.

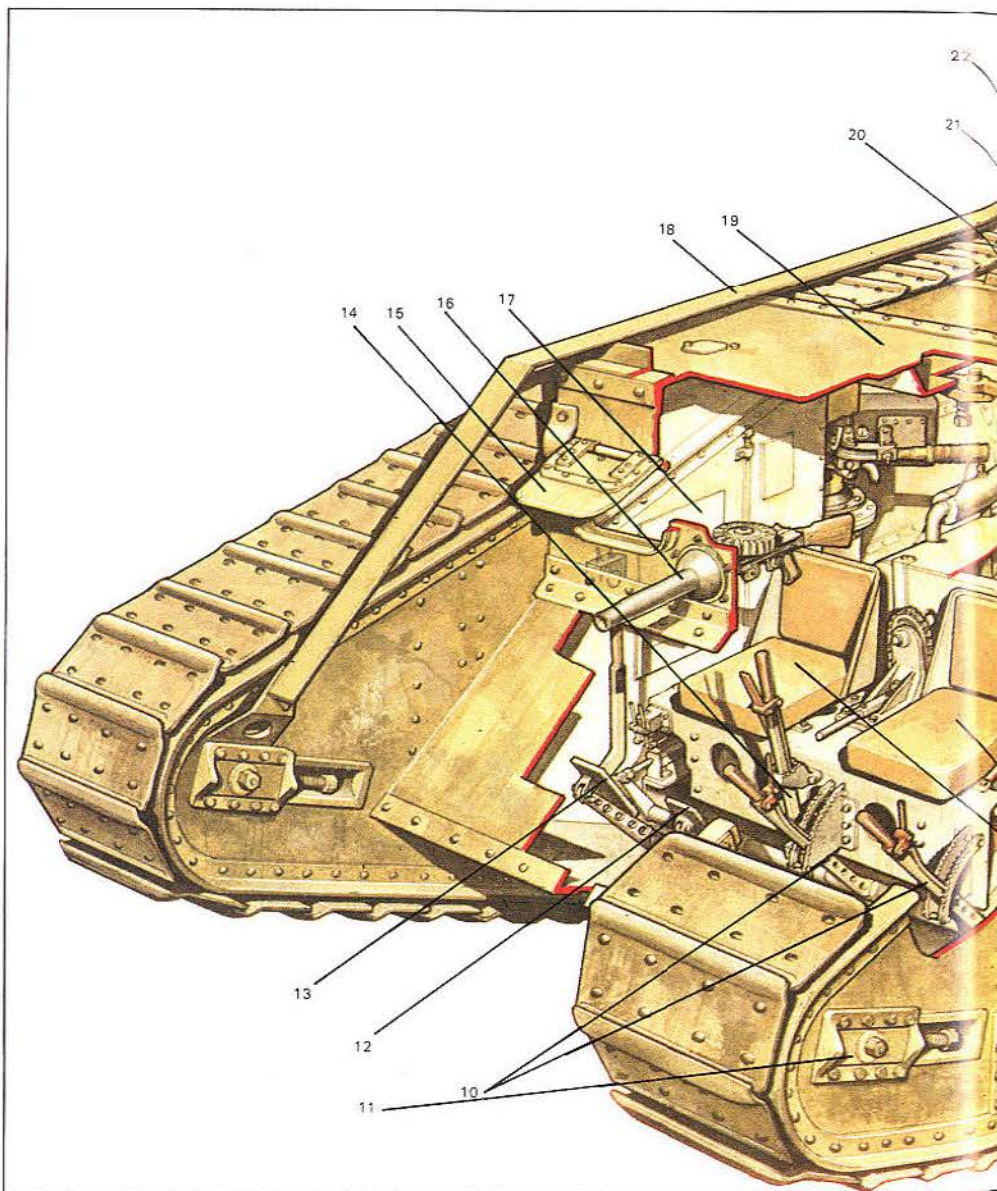
Instead of striking into a pocket and then retiring rapidly, it had been decided to make a systematic advance along a narrow sector bounded by two watercourses. While providing protection for a brief raid, the latter would become a dangerous limitation in the case of a

large-scale attack because the tanks would be forced to deploy in a narrow area and thus lose their outflanking capability.

However, the principal weakness of the overall plan was above all the lack of reserves, as the two cavalry divisions available could not be considered sufficient for the task. The effectiveness of organized defence, particularly thanks to the machine gun, had in fact clearly shown that the cavalry could no longer play a decisive rôle in the battle.

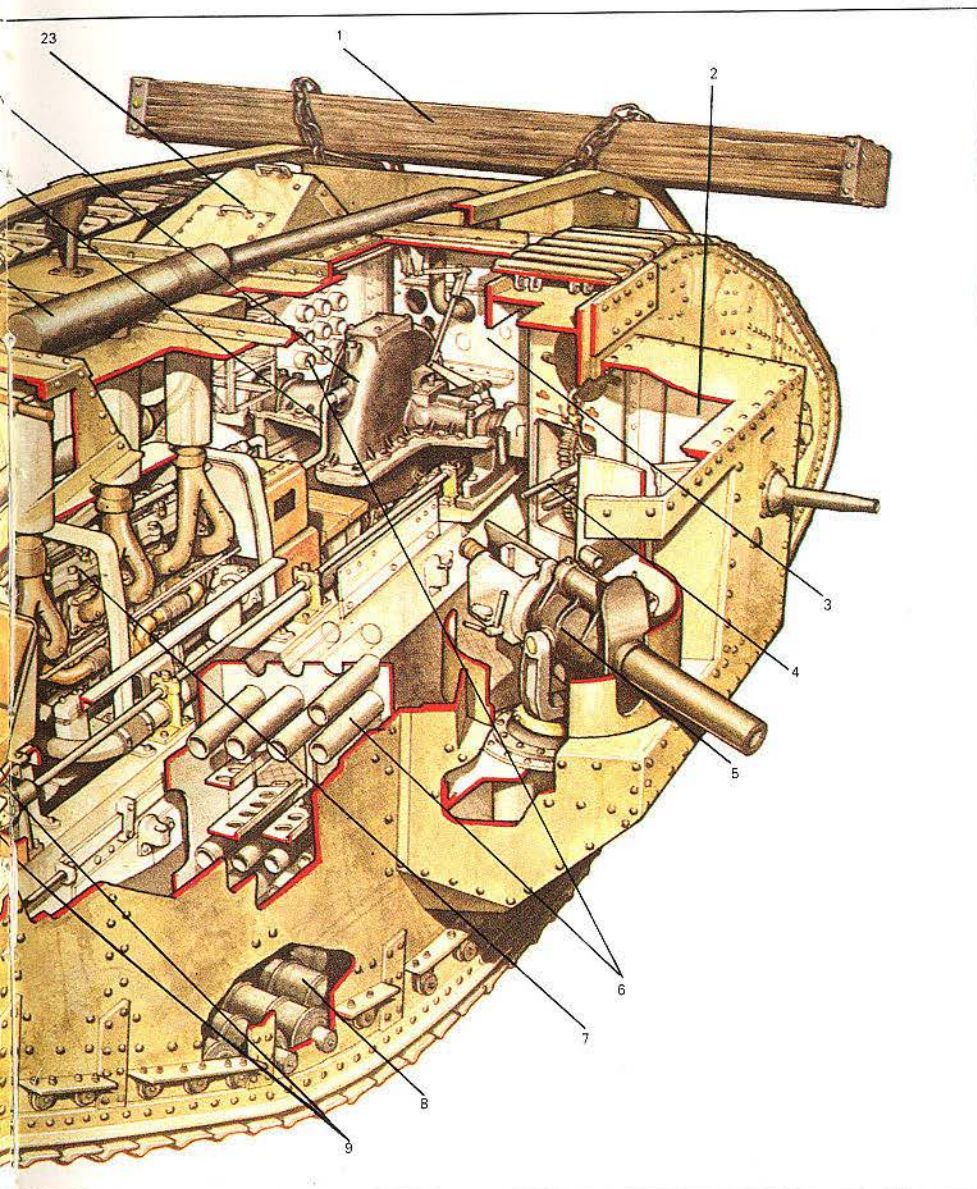
THE ACTUAL BATTLE

The preparation for the battle was carried out very skil-



The Mark IV was the most important World War II tank. It derived directly (like the Mk. I-III) from the 1916 tank prototype. Work on its design began in October of the same year. The first model appeared in March 1917 and by April, the first vehicles were ready to go into action in France, where they were used for the first time on the Messines crest on 7th June. In October 1917, 700 of the 1,220 commissioned were delivered to the Royal Tank Corps, which used 378 of them at Cambrai. Weight: 28 tons; length: 7.93 m; height: 2.45 m; crew: 8 men (two drivers, two gunners for the 6-pounder and two for the machine-gun, two mechanics); ammunition: 332 2.7 Kg HE shells in two containers and 5,640 Lewis gun rounds; range: 56 Km (on road); armour-plating: 6 to 12 mm cladding.

- 1 Plank for anti-tank ditch
- 2 Entrance and exit manhole
- 3 Tubular radiator
- 4 Secondary gear levers
- 5 OF Hotchkiss cannon
- 6 Ammunition container
- 7 6-cylinder Daimler engine
- 8 Rollers
- 9 Drivers' seats (two)
- 10 Brake levers for tracks
- 11 Track adjustment device
- 12 Transmission shaft brake
- 13 Engine clutch
- 14 Gear lever
- 15 Foreward observation hatch
- 16 303" Lewis machine-gun
- 17 Water tank
- 18 Rail for anti-tank ditch plank
- 19 Forward turret
- 20 Silencer
- 21 Starting crank
- 22 Reduction unit
- 23 Rear turret

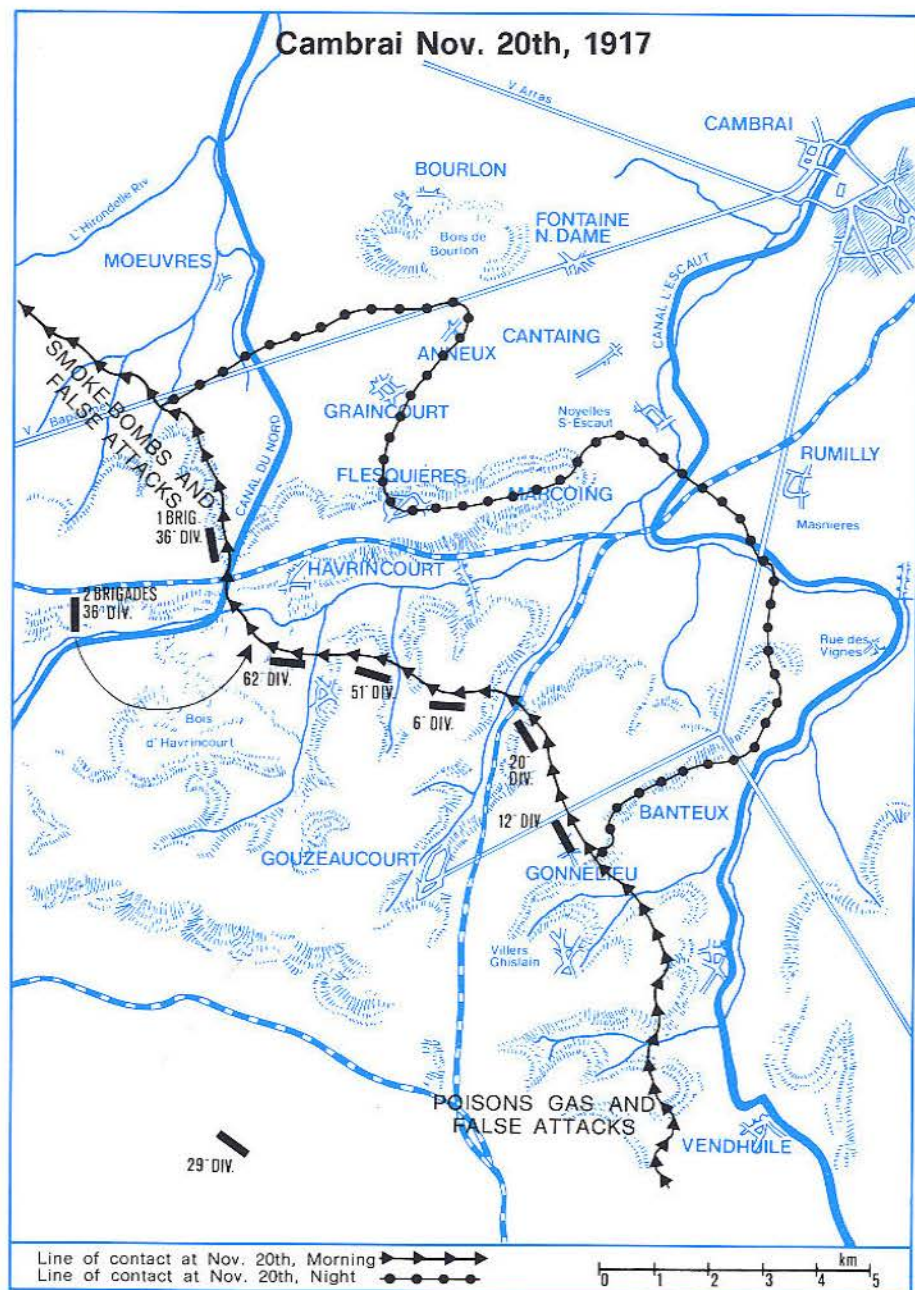


fully and in great secret. To deceive the enemy as to the scale of the operation and the front involved, fire actions were carried out using smoke and gas, and diversions created using small numbers of dummy tanks to the north and south of the sector chosen for the real attack.

At 0620 hours on 20th November the tanks and infantry began advancing over a front of about 9 kilometers, achieving total surprise and complete initial success over the entire sector, except for the central zone of Flesquières. This one and only "slip-up" occurred because the 51st Division had, on its own initiative, adopted a different battle tactic to that laid down by Tank Corps HQ. The prescribed close cooperation between tanks and infantry was not achieved; this resulted in the infantry being unable to exploit the protection of the tanks and becoming pinned down by machine-gun fire on reaching the barbed wire entanglements. On the other hand, the tanks, advancing on their own (thereby earning themselves the epithets of "knights errant" and "privateers") were subjected to close and concentrated fire from several German batteries, which had been allowed to go into action undisturbed owing to the failure of the British infantry to keep up with the tanks.

In the overall economy of the battle, however, the setback suffered at Flesquières, although much dramatized later, was actually nothing more than a simple pocket of resistance, which was bypassed and cut-off by the flanking units as they continued their advance as far as Marcoing.

Indeed, in the other parts of the sector to the north and south of Flesquières, the 20th of November was characterized by the complete achievement of surprise and a successful penetration of something like eight kilometers, i.e. as much as the advances previously achieved at the cost of months of heavy fighting and much heavier losses during the battle of the Somme



and the third battle of Ypres.

The British troops were in reach of a decisive victory: the main defensive works of the Hindenburg Line had been breached; the next line of defence had only been partially organized; beyond the latter lay undefended terrain. However, the infantry and tank crews engaged in the attack had practically run out of steam and the two cavalry divisions, except for a Canadian squadron, failed to exploit the situation.

The following day, 21st November, the deployment of a few

"local" reserves allowed some further advances to be made. The position of Flesquières itself was abandoned by the Germans at dawn, and the British 51st and 62nd Divisions advanced rapidly as far as Fontaine-Notre Dame, more than two kilometers beyond the point reached on 20th November.

The 48 hour time limit set by the British Supreme Commander, General Haig, had now expired. However, numerous considerations, including the hope of eliminating the threat posed by the Bourslon hill, still held by the

enemy, and to force the enemy to withdraw – while somewhat less probable after the modest gains made on 21st November and by the arrival of German reinforcements – convinced Haig himself to continue the offensive. This he did despite the misgivings and risks mentioned earlier, including the vital fact that all the available attacking forces had been thrown into the battle by 20th November.

Starting from the 22nd, the subsequent actions were anything but successful, and only increased the number of losses. On the 20th alone 179 tanks (about 50%) had been lost, together with 118 officers and 500 other ranks.

From then until the 29th, a series of undecisive local actions were carried out, especially around the positions of Bourslon and Fontaine-Notre Dame. During this time, the Germans, displaying great resilience, spirit of initiative and tactical sense, were preparing a deadly counter-attack, the potential seriousness of which was not fully realized at the time.

The part played by the tanks in the long drawn-out operations declined progressively in importance. For a few days more they were used in several sectors in small, comparatively ineffective groups until they all had to be withdrawn because of mechanical wear and tear.

The violent and unexpected German counter-attack was unleashed on 30th November against the two flanks of the British salient. The surprise achieved by the British tanks on 20th November was now matched by another surprise, of similar conception, if different in its execution.

Instead of the usual prolonged preparation, a short heavy artillery bombardment was used to open the way for the German infantry to advance using "infiltration" tactics. This represented the prototype of the attack to be used by the Germans on a large scale in the Spring of 1918, just as the preceding British attack had introduced the tactics that would be used by

the Allies in the Summer and Autumn of 1918.

The upshot was that, between the 30th November and the 6th December, the British lost most of the ground previously gained and, after an even more serious setback had been avoided thanks only to the valour of a few units, practically the same balance of forces and positions as prior to the attack was restored.

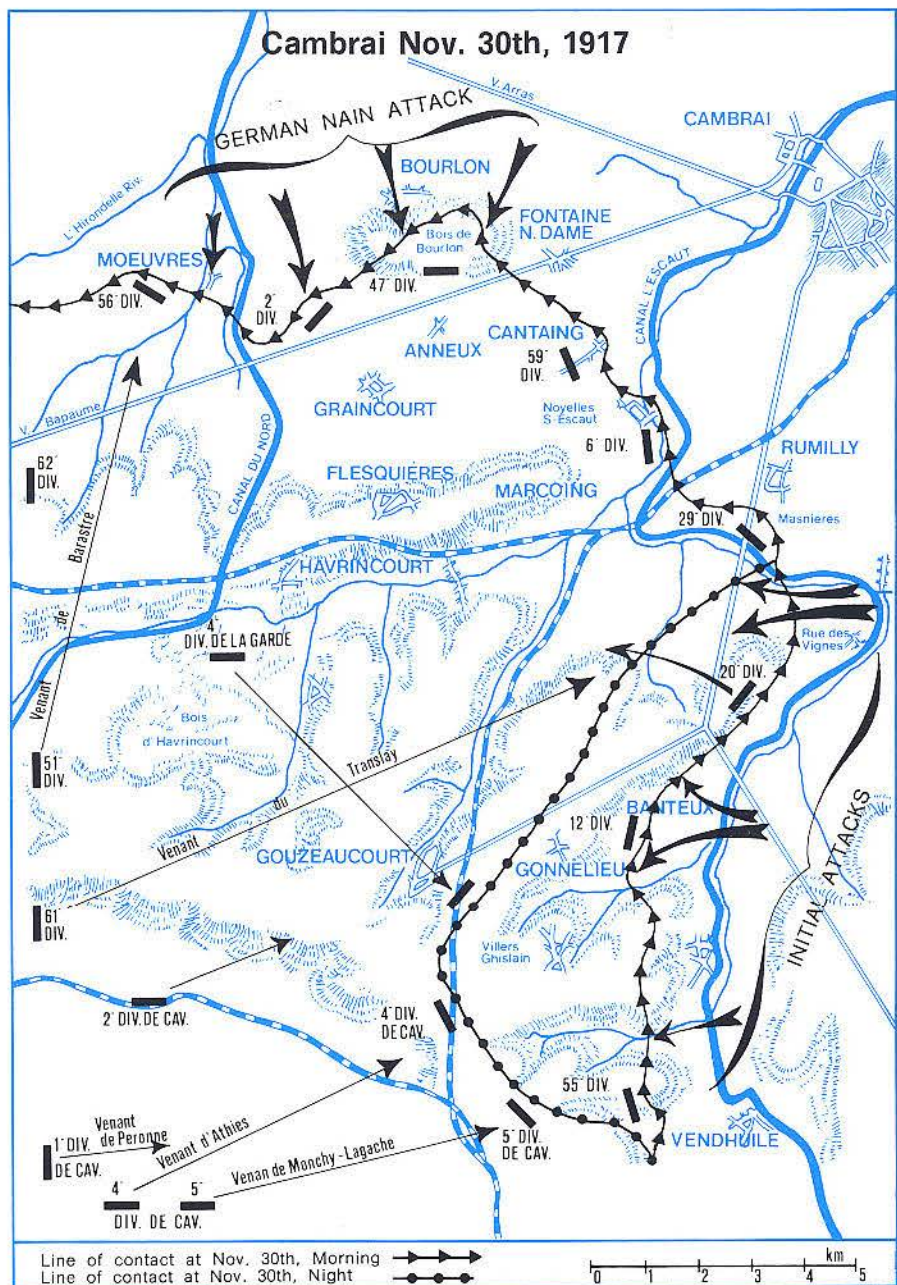
"A gloomy sunset after such a brilliant dawn" were the vivid words used by Liddell Hart in the book cited above. We shall return to the significance of these remarks of his in our conclusion.

CONCLUSIONS AND LESSONS TO BE LEARNT

On 19th November 1917 (it is again Liddell Hart who describes the events, and not without a note of humour) the German troops before Cambrai were contemplating, with serene confidence, the calm hovering over the sector. In the well-appointed trenches of the Hindenburg Line they compared their peaceful situation with the much more difficult one of their comrades in the Ypres zone.

On 20th November, 381 British tanks, followed by a comparatively small number of infantry units, carried out a dawn advance which took the Germans utterly by surprise. The defenders were almost incredulous before the unpleasant novelty of an attack carried out using unusual weapons and tactics and, above all, executed without the customary artillery warning which almost always left the defenders a few days in which to prepare a suitable welcome for the attackers.

On 21st November the church-bells of London were rung joyfully to announce a triumph, which appeared at the time as the prelude to imminent final victory. On his return to his HQ, Field Marshal Ludendorff hastily drafted his orders for a general withdrawal. Both the London church-bells and Ludendorff's draft orders were reliable



prophets, only that they were some nine months ahead of the real events.

On balance, the outcome of the Cambrai operation left the British with comparatively little of the ground they had seized (ironically, that little included the position of Flesquières, the site of the main setback of the 20th November).

At the end of three weeks' fighting, British and German losses, excluding the British tanks (about 200), were also indicative of a disappointing relative equilibrium. The British

had lost 44,000 men, 145 artillery pieces, 456 machine-guns, and the German 41,000 men, 145 artillery pieces and 500 machine-guns.

Both sides learned numerous lessons from the battle of Cambrai which, from the standpoint of military history, can be considered as the successful rediscovery of the fundamental principle of surprise. However, the beneficial effects of this rediscovery were cancelled out by repeated violations of the equally essential principle of the economy of forces, which was

neglected both as regards fitting the means to the objectives to be achieved, and in the appreciation of the capacities and limits of the human factor.

Some of these lessons were learnt immediately, while others were assimilated only after more serene and detailed post-war studies.

Briefly, the former are as follows:

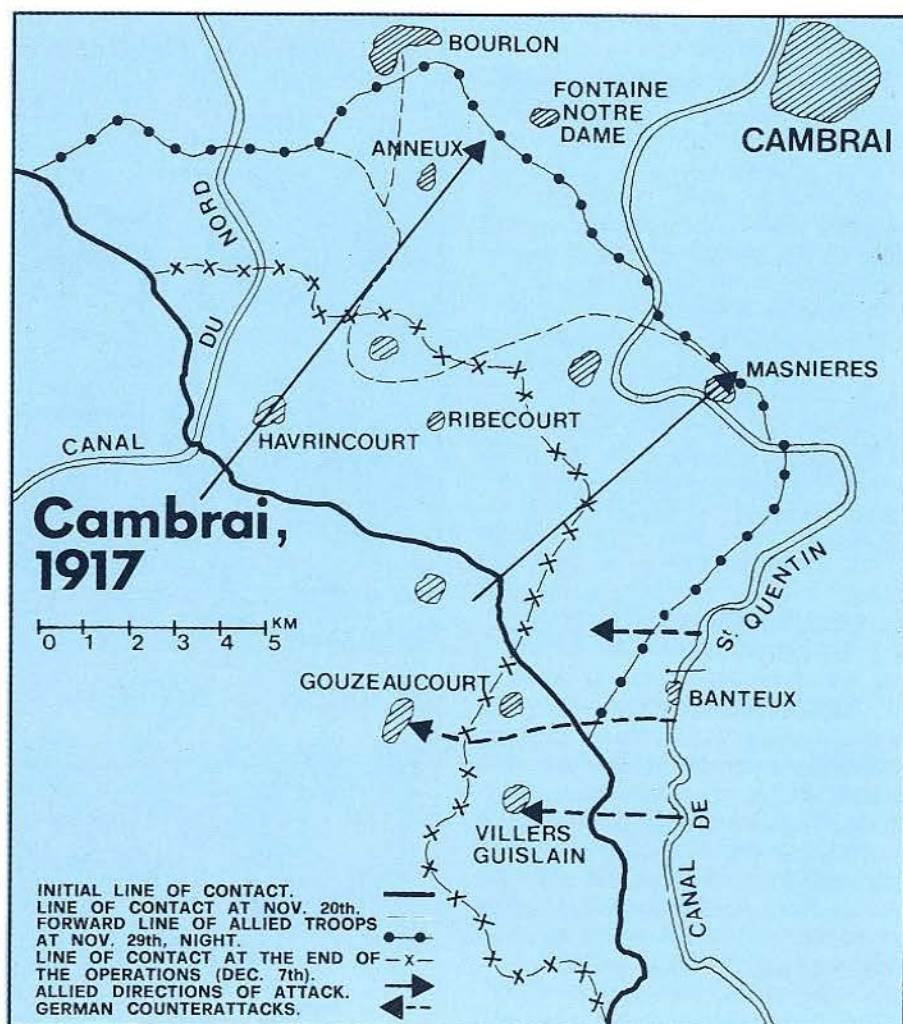
On the German side: an overhasty rejection of the operational value of the tank, perhaps due to the Germans' desire to bolster the image of their own defensive system. This rejection was shortlived and of dubious validity, as subsequent experience and studies were to show.

On the British side, the lessons learnt were obviously greater in number and more varied. From the technical point of view it was realized that some important innovations and enhancements were necessary, e.g.:

- the need to increase the tank's speed for faster action and to increase the chances of avoiding the enemy's counter-attack;
- increased fuel tank capacity in order to enhance the tank's range of operation;
- an improved power-weight ratio, which in later years was to be the subject of many investigations and studies, as a result of which more and more advanced solutions are still being sought;
- optimal gun placement, suggested by the fact that, because of the low position of its main gun, on a rise, the Mark IV became a target for enemy fire before it could bring its own gun to bear.

From the operational standpoint, the Cambrai operation showed the British that:

- surprise had actually been achieved;
- the German line of defence had been broken;



- the success could not be exploited owing to lack of available reserves;
- the action had had no true centre of gravity;
- it had been seen how decisive tank-infantry cooperation could be and how hard it was to implement promptly and effectively.

Of course, after the end of what has sometimes been called the last "Romantic war", there was a plethora of comments and studies on both sides. The first main supporters of the tank were Fuller and Guderian, whose ideas basically converged on several essential points, i.e.:

- on the need to use armour with the support of the other arms (infantry, artillery, aircraft);
- on the massed use of tanks,

with sufficient echeloning in depth;

- on the conception of the armoured division as a tool to be used in conjunction with air power to achieve the above two conditions.

In conclusion, the battle of Cambrai seems to have been increasingly influenced by a gradually developing error of conception, perhaps due to a form of unconscious hysteresis, during the operational stage.

The brilliant initial idea of carrying out a raid without actually occupying any ground was turned into an offensive action typical of the time, except for the fact that tanks were used instead of the conventional preliminary artillery bombardment.

The means available were insufficient for such an opera-

tion, particularly because tanks were still in their infancy and their performance inadequate.

The above transformation, which took the form of an almost unconscious return to a routine established by three years of fighting, shows that neither the high commands nor the units themselves were yet ready to return to a war of movement, although the writing was on the wall.

However, the considerations and lessons discussed herein would be of much less significance were it not for two other repercussions they have had on military history.

The first of these is once again suggested by Fuller (op. cit.) when he claims that, although only a partially successful surprise attack, Cambrai represented a new Valmy. Just as the latter in 1792 paved the way to the use of massed artillery, so the British tanks at Cambrai paved the way to the use of armour.

The second reflection is related to Italy. In the collected "Dépêches de Sir Douglas Haig", the 1920 French edition of which was enhanced by a significant introduction by Field Marshal Foch, we read that the Cambrai operation was of direct and substantial assistance to the allied forces operating in Italy.

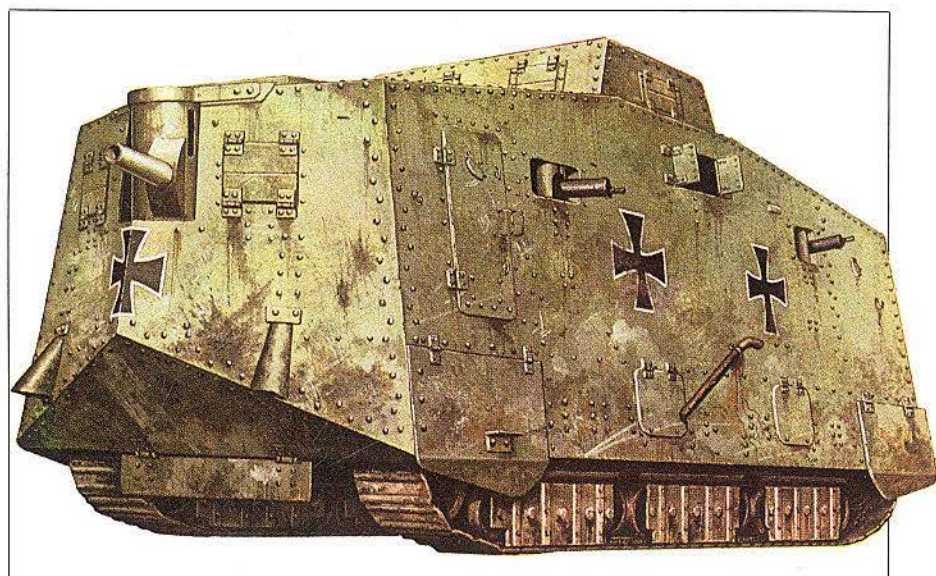
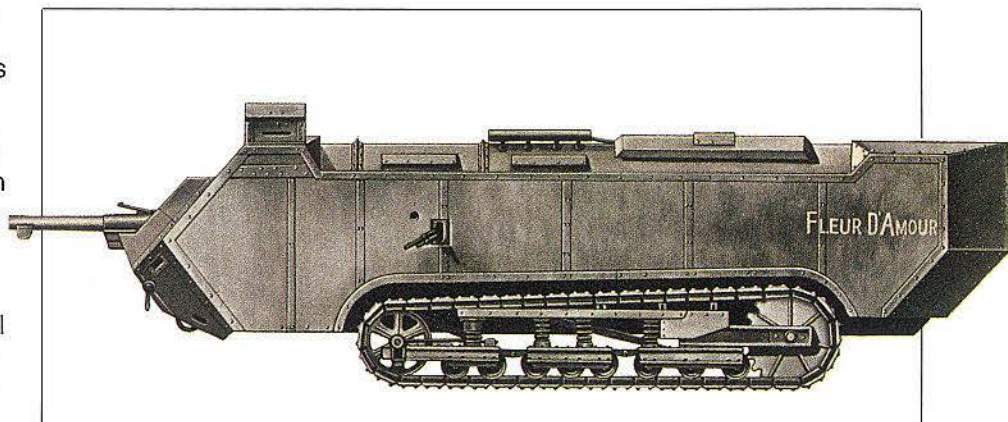
It is the authoritative opinion of the British Supreme Commander on the French front, supported by several other sources, that several German divisions posted to the Italian theatre were rerouted to the Cambrai front to ward off the unexpected British attack. The concentration of the forces of the Central Powers in Italy was thus reduced at a very critical time, i.e. when the Italians and their allies were engaged in setting up the defensive network on the Piave. The reliability of the source and the probable accuracy of the information justify this citation of the battle of Cambrai in an Italian review 68 years after the actual event.

Below.

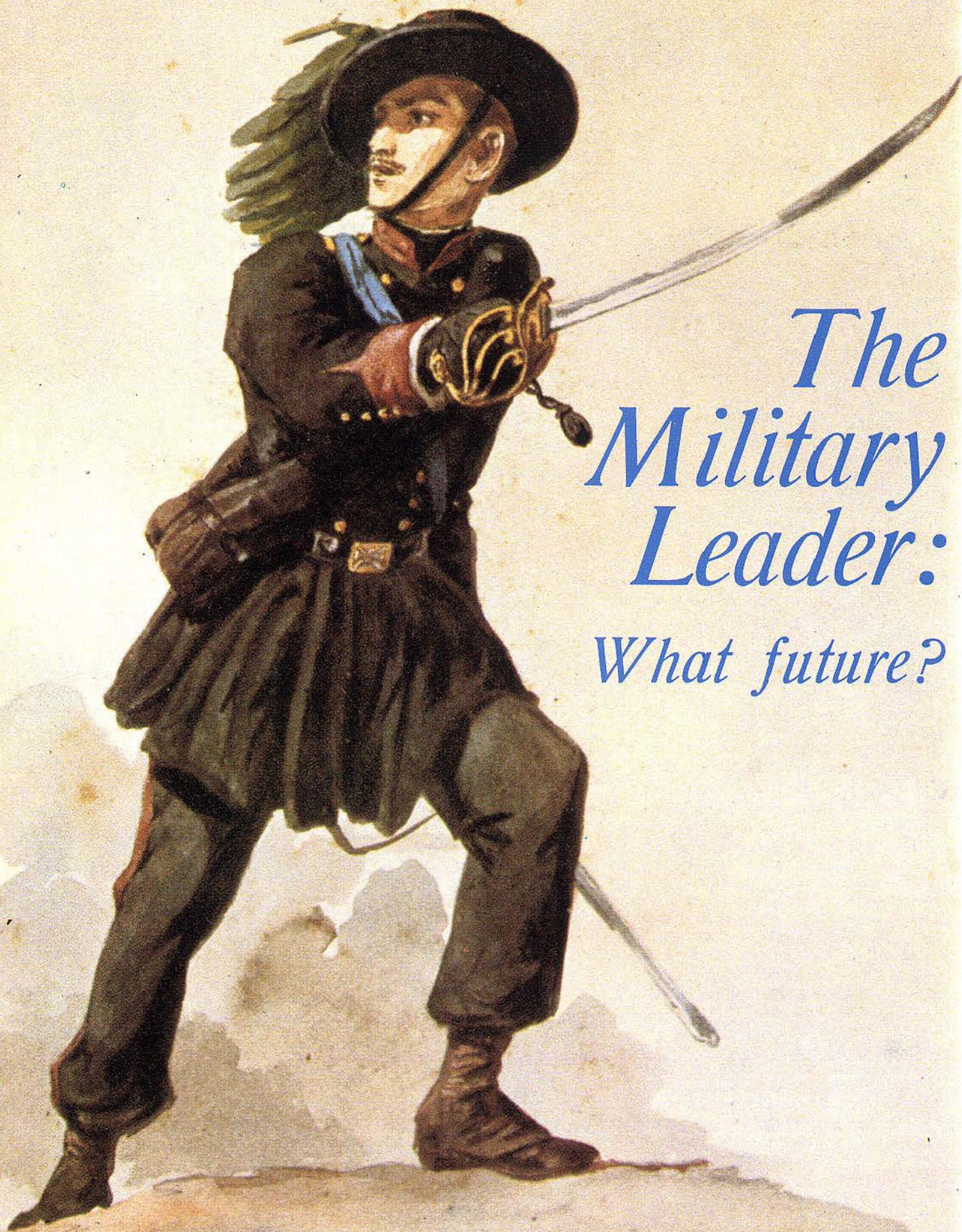
French St. Chamond tank. This vehicle had a 9-man crew, 5 of whom serving the 75 mm gun and the 4 machine-guns. This tank was used for the first time in May 1917. It weighed 23 tons and could attain a speed of 8 Km/hr. Some 400 St. Chamond tanks were built, one of which was ceded to the Italian Army to be used for experimental purposes.

Bottom.

The German "Sturmpanzer Wagen A/V". This tank had an 18-man crew and mounted a 57 mm gun and 6 or 7 machine-guns. Twenty tanks of this type were built, each powered by a 100 HP motor. It could attain a speed of 9 Km/hr and was equipped with 30 mm thick armour-plate.



BRITISH TANKS AT CAMBRAI



*The
Military
Leader:
What future?*

One of the consequences of the growing interest in management training today is the debate that has opened up in military circles on the cultural qualities and professional skills that an officer needs in today's Armed Forces.

It has been the subject of articles published in specialist magazines and journals and in the national press, and the CASD (Centre for Advanced Defence Studies) devoted a whole session to it. The debate hinges around the question of what is the most appropriate profile for today's officers, whose functions are akin to those of management if one views the Armed Forces as an industry that "produces" security.

This definition is the result of an over-eagerness to draw comparisons between our Institution and other governmental or private non-military organizations, trying to pick out from them a number of unchallenged innovations in the management process.

Many schools of thought exist on this subject, and often the "managerial" function seems to override that of the "Commander".

In this connection, our Chief of Staff has made some enlightening comments in recent years, on the subject of the rapidly changing social and technological environment in which we are living. In his inaugural address to the Italian War College for the 1982-83 Academic year, the Defence Chief of Staff put his finger on the crux of the leader vs. manager issue, when he said that, "It is true that there are similarities between military and civilian structures, but it is equally true that the essence of the officer's profession is totally different". He went on, "The military Leader's duty is not solely to attain economic and productive ends: his operational ambit is far broader than that. It comprises resource planning and use, the operational selection of facilities, ad hoc organization and command, which involves responsibilities for training, for moral preparation, sound govern-

ment, working in harmony with the men being led. This is not only true in peacetime, but also in preparation for possible tension and conflict. The military Leader is both a manager and a Commander, a planner and an implementer, a weapons expert and a decision-maker, with a



variety of possible tasks awaiting him".

The Chief of Staff has frequently summarized this in the following terms: "The Commander is, at one and the same time, a manager and an organizer, in whom psychological and social sensitivity merge harmoniously with his mastery of the latest techniques and methods which are needed to manage the structure for which he is responsible".

Of these two terms, it is the Commander, the Chief, which best describes the modern officer.

But who is the Chief? Where does he come from?

It is universally agreed today that human communities, at every stage in their evolution, have always had a chief or leader.

It is a fundamental and vital necessity, almost as a means of self-defence, which leads the members of any organized group to give up some of their freedom and to hand over group responsibilities to a particular individual, elected or imposed on them to guide the group, on account of his acknowledged qualities.

But who is the Chief? The word comes from the Latin for "head": the man who knows, who wishes, who does, who knows how to demand the maximum commitment from his men, and gets it, coordinating their efforts. He is the man who takes on the responsibilities of the others. He is the man who serves his own ideals, his own men, and his own mission.

This definition reveals two distinctive features of the Chief:

- sense of service;
- ability to command.

Commanding is the skill at leading subordinates, coordinating their work to attain the institution's purpose. This being so, it is natural to consider that the concept of "command" automatically implies the concept of "authority". But we have to draw a distinction between authority and authoritarianism. The former is a principle underlying ordered social cohesion which does not clash with the concept of freedom, when it is directed to attaining the common good. The latter is a manner of exercising authority which clashes with the principles of individual freedom and dignity. A further distinction exists between authority *in se*, which is a state, and the exercise of authority, which is an act. Lastly there is the authority of law, which gives the right to command and require obedience, and the *de facto* authority, which is the ability to impose oneself on others by virtue of one's own merits.

To complete the picture, we have to refer to the three basic activities that qualify the command function in whatever social environment it is performed, all of which are intimately

Left.

Personality, discipline, training, experience and intuition are the bases of the professionalism of an officer. But to prevent this from becoming an end in itself, it has to be underpinned by moral courage. The emblematic figure of the Bersaglieri officer leading his men into battle epitomizes all these values.

linked and inseparable: forecasting, decision-making and controlling.

Forecasting comprises all the conceptual and organizational work carried out before orders are issued. The more complex the operation, the more necessary forecasting is.

Napoleon used to say on this subject "... I usually plan what I have to do well ahead of time, and I always calculate expecting the worst. In war, you achieve everything by calculating. The reason I take so many precautions is that I never leave anything to chance. It I seem to be ready to respond to anything, it is because I have thought at length about things, and predicted everything that is likely to happen before I actually do anything. There's nothing magical about it, and no sudden revelation about what I should say or do in a situation that no-one else expected. Simply reflection and meditation".

Forecasting, then, whatever type of problem one is dealing with, involves analyzing the situation, deciding what action to take, and then organizing.

The order is the expression of the Chief's will: it must be clear, complete, and precise; but it must also exclude any attempt to lay down all the ways it is to be executed, because that would stultify the initiative and powers of subordinates.

Lastly, control: this consists of ascertaining the gap that exists between the planned, ordered action and the objectives it is designed to attain, and of intervening to redress things if necessary.

Control does not stultify the initiative of subordinates, and is not a curb on their freedom of action within the limits of their powers, if:

- the control methods are laid down in order;
- the controls are sufficiently spaced out;
- the control relates to the whole organization, and not to the component parts in the lower echelons of the organization.



What has been said so far is an attempt to focus on the basic features of the Leader, starting with a simple definition, and to spell out the functions typical of the command action. The command action is always directed at men, and its efficacy is based on the relationship that exists between the leader and his followers. But to identify the features of the modern Chief, we need to examine the main features of contemporary society

and the peculiarities of modern warfare, and then draw conclusions on the conditions under which command has to be exercised today, and even more so tomorrow.

Our society, being one of the world's leading industrial societies, has progressed at an unprecedented rate over the past few decades, giving rise to innovations that have been particularly noticeable in the social and technological fields. This has



created new psychological developments, particularly among young people, and given rise to new and often contradictory demands, requiring difficult solutions that could not be deferred any longer.

Now that we are going through a period of social "decanting", in which things are settling down in the wake of the stormy Seventies, we can describe the dominant features of present-day society in the follow-

ing terms:

- men are aware of the new possibilities they have to know and act, and are aspiring to greater autonomy;
- citizens are increasingly demanding more assistance from the social structures and the State;
- in an attempt to provide all things, society is reducing the power and participation of individuals;

- modern technology is centralizing information at a time when people are demanding decentralization;

- there seems to be a faltering emergence of those moral values that the unbridled consumer society seems to have relegated to a secondary plane;

- people are demanding more efficient State structures, rejecting authority, and are apparently unwilling to accept laxism and demagoguery any more.

Moving now to the specific area of the modern battlefield, one of the first things to be noted is that technological progress has introduced such powerful, mobile and sophisticated weapons and vehicles that the rôle of the modern combatant has taken on hitherto unknown dimensions.

Furthermore, the fragmented nature of the tactical acts, and the possibility of rapid force withdrawal and concentration have enhanced the operational capacities of small groups which which have to act with initiative, albeit in a unitary manoeuvre plan, exploiting to the full the capacities and possibilities of individuals and groups.

Initiative and professional skill on the part of individuals, mutual acquaintance between everyone concerned, and group cohesion seem to be the features of the military operational environment today. Now that we have defined the general framework in which to fit our man, we will now try and see which are the logical places in which the command action has to be exercised if it is not to be a failure.

Montesquieu said that "If you want to do great things, you must be among men, not above them".

The spirit of enterprise, mutual acquaintance, group cohesion: these are the particular features that characterize the Commander. The photograph symbolizes the operational environment in which the cadets at the Modena Academy train together to perfect their technical/tactical skills.

This seems to fit in perfectly with what has been said above, because today it is necessary to work in such a way that subordinates lend their support and respond to discipline through communication and decentralization, without ever losing sight of the human dimension.

Today, more than ever before, it is essential to exchange information because it is only if all the "pawns" belonging to an organization are aware of the objectives to be attained that all their energies can be coordinated and the common endeavour can be carried through more easily. Hence the need for dialogue between the Chiefs and the followers at all levels. This does not mean demagoguery or, worse still, abdicating authority, but it is the best way of obtaining discipline willingly.

Willing discipline depends on participation: contemporary man is becoming increasingly loth to be a simple cog in a complex machine, he wants to participate directly or indirectly in the choices that have to do with him, within the constraints of his rank. In this manner, he feels that his desire to safeguard his own dignity is being satisfied.

But if this participation is to be productive, the relationship between Chief and followers must be based on the utmost loyalty and mutual esteem: only in this way subordinates can honestly express their own ideas, free of all servile conformism and preconceived protest, and actively share in the operational construction of the organization in which they belong.

The natural corollary of participation is decentralization which must be accepted whenever possible, to make the best use of the skills and potential of subordinates, to enhance initiative, enterprise and motivation. In other words, it is necessary to resist excessive prudence leading to the concentration of all the information – and hence all the decisions, including marginal ones – in the hands of the Chief. Communication, decentralization, participation: these are the three

pillars of the modern action of command. But they would merely be functional schemata unless humanized: and humanizing them does not mean cheap demagoguery, but love alone. In the command action, no error is more serious than creating a



breach between the Chief and his followers; the men must be drawn closer to the Chief, and they must be respected and treated with dignity, and be offered total trust and encouragement, with understanding and – above all – fairness and justice.

This is the only way to have the firmness which is indispensable to be able to inflict more severe punishment on them, when this is necessary.

We began this paper with a sketch of the Chief, mainly in terms of the semantic meaning of the word. The time has now come to examine the particular qualities that the Chief must possess in the light of the demands of contemporary society.

Being a Chief, as we saw at the beginning, basically means having to take decisions, laying down what has to be done; but it also means having the determination to do what has been decided, mobilizing everybody to get them to work for the same end and stimulating the initiative and enterprise of one's own subordinates, sustaining their action.

But three basic qualities, shared by Chiefs throughout the ages, are needed to be able to do this: professionalism, strength of character, and motivation.

"The most immoral thing of all", said Napoleon, "is being in a job that one cannot do".

And today, in a society characterized by incredible technological wealth, it is no longer acceptable for a Chief to operate solely on the strength of his personal magnetism and moral qualities: he also needs professionalism.

This is rooted in his education, the soundness of his training, and maturity of his personal experience. While education and training provide the Chief with the vital knowledge and interior balance he needs to face his problems, it is the experience that has matured over years of work that enlightens his insights and is often the real key to taking the right decisions in abnormal situations.

He therefore needs skills that are not just required as a matter of prestige, but because they are guarantees that he will perform his duty in a professional manner.

But professionalism would merely be an end in itself if it were not supported by the Chief's determination and tenacity to attain his objective: namely, by his strength of character, which may be considered to be a balanced synthesis of courage and willpower. It is courage, in the moral sense above all, that the Chief must depend on when he has to make a choice between the various possibilities open to him and when beset by doubts. It is courage that leads Chiefs to be daring.

And it is willpower that serves as the spring which urges them on to attain the objectives, despite the difficulties. The Chief's determination is all the more appreciated by his men to the extent that it is not self-seeking. When this is the case, the common good prevails over personal interests, and this is the concept which underpins both the authority of the Chief and the obedience of his followers.

An ethos of this kind inevitably spells doom to the quest for power and the lack of intellectual honesty. These are things which can never exist in a real Chief.

But what does the future hold in store? Will scientific and technological progress take place at such a frenetic pace that it will slip out of man's control? Will the human dimen-

sion still be valid in the robot age?

Without claiming to tell the distant future, one can extrapolate from the current trends to see what is likely to happen in the Nineties, and assume that we are likely to be faced with young men whose ethical/cultural features will not differ very much from those that exist today. We shall be dealing with young men who are better integrated into society, but increasingly less willing to accept personal risks and sacrifices, and who are used to comfort and affluence, more demanding and more practical, more culturally developed, more willing to accept the institutions provided they are efficient. Young people, in other words, who will be harder to handle because they will demand more concrete proof of credibility, but who will still have more or less the same needs as young men have today.

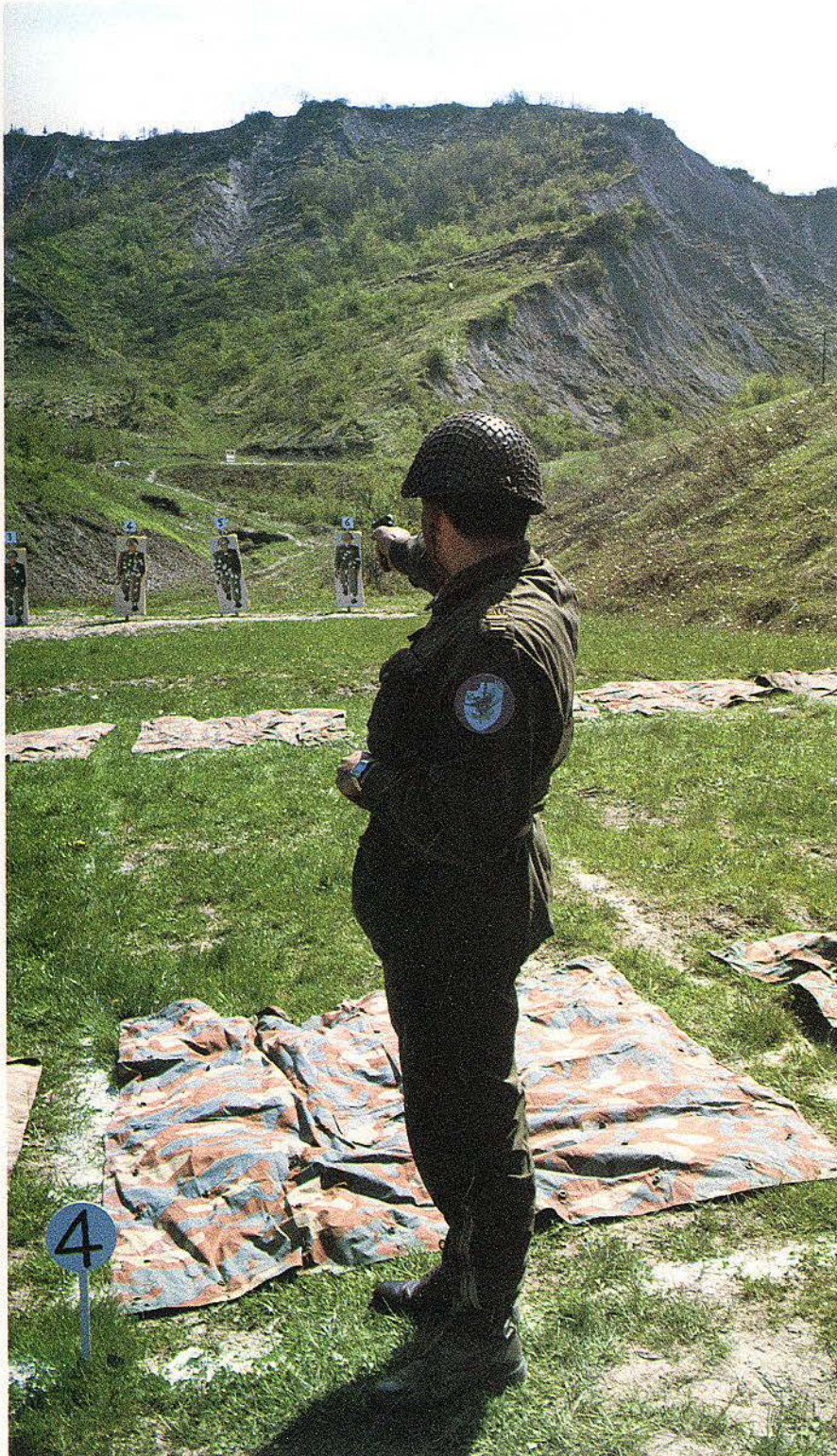
Consequently, the Chief of tomorrow will not be very different from today's Chief. He will have to be:

- a man in whom young people, his followers, can and must place their trust because he is thoroughly trained to carry out his task;
- a professional who is capable of handling increasingly complex men and equipment;
- a man of his age.

But looking back over what I have said above, and thinking of the great leaders of history, the following question comes to mind: do things ever really change?

To conclude, one might say with a fair amount of confidence that the art of the Leader is based on a number of immutable principles and a number of variables.

The uplifting of the spirit of enterprise is the precondition for the willing acceptance of discipline and self-sufficient professional training. One of the educational targets of the Academy is to train the future Commanders to operate under critical circumstances.





While the great ethical principles of command dating back to the dawn of history remain as valid as ever for the relationship that exists between the Chief and his followers, no-one can deny that the style of command has to keep pace with the times.

It is unthinkable that a real Chief could possibly fail to sense the needs and tensions and problems of the world that surrounds him.

So he must be a man who fully respects traditions and yet is constantly reaching out to the advancing world.

He must set aside both intransigent authoritarianism and hypocritical paternalism which create barriers of diffidence and rancour, and weaken the flame of the spirit.

The world that is now opening up before us is the world of understanding, open-mindedness, and facts, example, and the infeasible nature of fundamental moral values.

But one thing is certain: the real Chief is going to have a hard task ahead of him, which will demand a great sense of balance and extreme sensitivity.

And if experience is the guarantee of balance, sensitivity is the synthesis of the sense of the human dimension, which enlivens relations and helps people to understand, and of the cultural dimension, in the sense of being trained and the wealth of the spirit. Balance, culture and the sense of the human dimension, therefore, are the values of an inner sensitivity that the Chief must continually draw upon in moments of loneliness, and when he has to experience the anguish of his doubts, and take upon himself, singlehanded and without sharing it with anyone, the full burden and privilege of taking decisions.

At the Modena Military Academy, the Officer Cadets learn the principles of the ethics of command, which will enable them to take on the burden and the privilege of decision-making once they are Commanders.



Major General Pietro Egidio Re graduated from the Military Academy, and attended the War College, the Inter-Service General Staffs Institute and the XXXII Session of the Centre for Advanced Defence Studies. Inter alia, he has served as Operations Chief at the Command of the 6th Army, Commander of the 2nd Battalion of the 11th Field Artillery Regiment, and deputy lecturer in tactics, Course Chief at the War College; Deputy Commander of the "Trieste" Mechanized Brigade, Chief of Staff of the War College and Schools Inspectorate. He was the Commanding Officer of the Modena Military Academy for over 3 years. Maj. Gen. Re has published several articles in previous issues of *Rivista Militare*. In November 1984, he was appointed Commander of the "Folgore" Mechanized Division.

Pietro Re



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ARTILLERY



SITUATION AND PROSPECTS



Also in the field of artillery, as for the other components of the tactical operative instrument, the technological progress is making its presence

strongly felt; those who have the responsibility for the planning of the battle are therefore confronted with new possibilities, different options and diverse threats.

The argument is not totally new; on the contrary, it has been recurring lately and often – being based on theories that can be called workshop theories – it has been developed in a most fanciful way, assuming as certain some accomplishments that in practice have often not come up to expectations, resulting in the annulment of several new programmes regarding new systems, due to the cost or other difficulties.

On the basis of the actual employment in the field of new systems, it seems that the time has come for considering a new reality which, to be managed, must foresee a radical change in the procedures of employment and in the utilization of the support fire delivery systems in the battlefield.

TECHNOLOGICAL INNOVATIONS

As regards the gun as system for launching a shell, remarkable progress has undoubtedly been made which has entailed increased ranges, more automatism, much improved systems for munition supply, better capability of movement, both for towed and self-propelled artillery.

As a whole, these innovations have nevertheless remained within the traditional schemes and still today they are not so determinant as to cause a reconsideration of the concepts and procedures of employment of artillery.

As a matter of fact there is a great novelty in this field, the realization of which will certainly bring about a real revolution in this sector. This is namely the possibility of adopting a liquid instead of a solid propellant in the charge, with advantages that can be easily understood, such as: elimination of the cartridge, abolition of the extraction phase, great increment of the firing rate, great reduction in weight, etc. Nevertheless, despite the recent encouraging successes obtained by research and experimentation in this field, the results are still being evaluated; therefore the subject is a prospect

for the future and must not be taken into consideration today in view of an immediate revision of the procedures and standards of employment.

INTRODUCTION OF THE SATURATION WEAPON

The concept of saturating with fire certain areas of the battlefield has been progressively gaining ground after the wide employment and the good results obtained during the second world conflict, especially by the Soviet Army.

The possibilities offered by the system of simultaneously conveying with remarkable timeliness massive volleys of rockets conveniently distributed over wide areas, has prompted the adoption of the term "saturation" and its basic concept has deservedly become part of the number of elements which concur in the development of a battle.

With time, the concept has equally undergone improvements and the rocket with a big explosive charge has been joined by the mine-carrying rocket for the creation of minefields of interdiction within the adversary lines, with the consequent limitation of the enemy's mobility – as well as rockets carrying anti-tank submunitions with self-

Left.

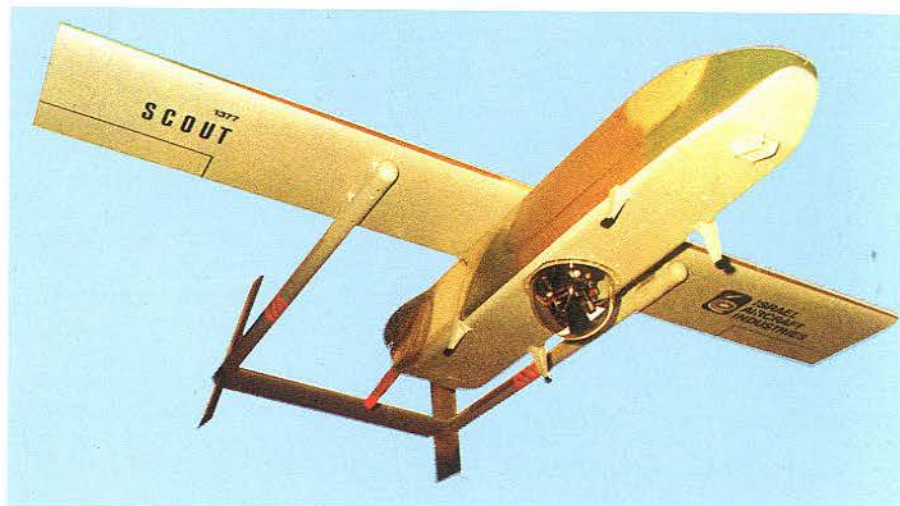
The crew of a "Lance" missile ramp perform the last operations before firing. The "Lance" is 6.15 m long, its diameter is 56 cm and weighs 1.6 t. The "Lance"'s range is 75 km with a conventional warhead and 125 km with a nuclear warhead.

Right.

The artillery Multi Launched Rocket System (MLRS) is being acquired by the Italian Army through the participation in a co-production agreement with other NATO countries. With a salvo of its 12 rockets, the MLRS can spread 7,728 disruptive-effect submunitions over an area of 250×100 m, 168 antitank submunitions or 336 mines over an area of 1000×400 m. The MLRS can be connected to the most advanced systems of fire control.



In the sector of search and acquisition of targets, one of the main means is the Remotely Piloted Vehicle (RPV), which can follow pre-memorized or ground-guided trajectories, giving a televised view of the enemy deployments in the overflow area. The best Known RPV is the "Scout" which can transmit to the ground, from an altitude of 3000 feet, the image of an area of approximately 50 sq km.



guiding heads, still being tested, and rockets as carriers of "jammers", and others.

Thus we have at our disposal a system characterized by a great capability of instant delivery and very high concentration of fire.

One need only to think that a volley of the complete load – 12 rockets – of a MLRS (Multi Launched Rocket System) – which is being acquired by the Army through Italy's participation in a coproduction agreement with other NATO countries – can spray 7728 submunitions, each with a power equal to that of a defensive hand-grenade, over an area 250 m wide and 100 m deep., obtaining, for example, the neutralization of a whole battery, deployed in the traditional way. Moreover each rocket can carry antitank submunitions in such a number (14) that they can knock out a whole tank company (I want to stress that this is still at the research stage, particularly as regards the reliability of the self-guiding warheads).

We have already mentioned mines and "jammers".

These characteristics of power, together with the outstanding capabilities of movement and the ascertained possibility of linkage with the most advanced fire control systems,

make the rocket launcher – besides its being a precious aid for laying minefields of interdiction on the enemy ground or wide systems of electronic disturbances – a reliable substitute for the gun in most of the actions of mass fire.

This does not mean that we must consider finished or obsolete the function of the gun. We shall see further on, how this weapon system still retains ample space for action but with a different perspective of employment from that adopted till now.

INNOVATIONS IN FIRE-CONTROL AND OBJECTIVE-ACQUISITION SYSTEMS

With the employment in the field of the systems – fully achieved today – the forward observer can convey to the fire direction system, at battery, battalion or other level, through a radiocomputer transmitter, a standard fire-request message of 1-3 sec duration.

At battalion level the automated system of fire direction (control) processes the message and according to: the availability of launching systems, the priorities of the request, the pre-memorized standards of employment, the characteristic of the

arms, as well as their condition and location, the availability of ammunition, the weather conditions and other possible elements, it selects the type of intervention and the weapons concerned, and transmits then the order of intervention and the firing data.

The battery's computerized system, which can manage up to 12 weapons, receives and transmits directly to the guns the intervention data. It must also be observed that the battery's computerized system can also communicate directly with the forward observer and, consequently, operate autonomously.

Let us mention here the system for the direction and control at Division level. It can manage up to 100 fire units (individual sources or groups), including naval artillery and aircraft, and can record data regarding more than 1300 objectives.

Linked to these automated systems of fire-control, there are position finders and weather condition recorders, all based on computerized systems.

Another remarkable progress must be recorded in the sector of the search and acquisition of objectives.

Here, the most important means at our disposal are RPVs (no-pilot reconnaissance aircraft), systems for control of the battlefield,



laser for lighting the objective and fire-source finders.

It is worth to deal briefly with these elements because their capabilities draw a really new picture in the sector, imposing deep changes in the field of fire employment, in its procedures and deployments.

The RPVs, which can fly for 30-60 minutes within the adversary lines along pre-memorized trajectories or be guided from the ground during the flight, give the unit a photographic or televised view of the entire adversary deployment in the surveyed area.

The systems controlling the battlefield work by means of three types of sensors: magnetic, acoustic-seismic and infrared.

Spread on the ground and linked by radio with a centralized reception and processing system they can ensure the control of

up to 100 km within the enemy lines.

The laser outlining the objective is employed by the forward observer, on the ground or on an aircraft-carried platform.

With it, the trajectory of laser-guided projectiles such as the "Copperhead", "Hellfire" etc. can be controlled during its final phase, by lighting the objective with a coded laser-beam in tuning with the guiding system of the incoming projectile. These field systems have at present already a 10 km range; an observer-designer, well positioned within the friendly lines, can therefore "lighten" a target well inside the adversary lines, guiding the incoming projectile in the final phase of its trajectory.

The fire-source finding systems (artillery, mortars) have reached today a technical perfection of the highest degree.

With a range from 10 (for mortars) to 30 km (for artillery) these systems can be conveniently deployed inside the friendly lines and ensure the in-depth cover of all possible enemy deployments. The times are outstanding: it has been experimentally demonstrated on the field that – simultaneously with the departure of the enemy weapon – these systems, linked with the above mentioned chain of con-

Carrier for anti-aircraft "Hawk" missiles. This missile is 5.12 m long, 350 mm wide, weighs 850 kg, and can engage targets up to a distance of 40 km at an altitude of 19,000 m.

Due to the technological progress achieved in recent years, it has been possible to realize computerized fire direction and control systems, capable of processing firing data in real time and in close connection with the type of target, the availability of the launching systems, the priority of the requests, the characteristics and location of the weapons, the availability of munitions and the weather conditions. The photo shows a "Fieldguard" fire centre for rockets and field artillery.

trol and fire-direction, can ensure the location of the source, its definition, the fire request, the indication of the weapon to be employed for countering it, the firing data for intervention; all this, before the arrival of the enemy blow.

TYPES, HARDNESS AND SURVIVABILITY OF THE POSSIBLE OBJECTIVES

Having given an overall view of the possibilities of action offered today by the artillery, if is now convenient to take a look at the features of the possible objectives and therefore the possible needs of intervention, considering the average configuration of the modern armies. In short we can point out two basic operational situations: the fluid one and the static one.

In fluid operational situations, the objectives offered to both the attacker and the defender will be marked by deployments certainly widespread but, above all, very volatile and hard, as they will be protected from the splinters effect.

In fact the armoured or mechanized combat units will adopt procedures whose main features will be mobility, operating as much as possible from aboard, persuing success through movement and long range fire more than through methodic action.

The logistic supports will be consequently involved in such types of procedures and, in their turn, will have to be characterized by great mobility.



This battlefield configuration envisages, for the artillery, possibilities of intervention marked by the necessity of great timeliness, very scarce need of mass fire, great request for "capillary" and very accurate fire actions (hit pinpointed on the adversary weapon system).

Static operational situations can still be considered possible today, despite the very high mobility of the modern armies.

Of course we must consider an operational situation of comparative immobility, which includes, alternatively, static and dynamic actions and proceedings, in which the idea of immobility is connected mainly with the concept of a manoeuvre planned by the defender, who aims at exploiting, as best as he can, particular conditions offered by not very extensive areas, with good tactical features, or by terrains very difficult for movement but with very good defen-

sive possibilities, severely limiting the manoeuvre of the attacker, preventing him from achieving swift and easy concentrations of power in areas where he can apply his breaking efforts.

In such an operational condition and contrary to what we have surmised for the fluid situations, also the modern armies can have the opportunity to make an intervention with fire on less transient and less spread-out objectives and, sometimes, less hard and sheltered along the line of contact.

The defender of strong vital firmly anchored and well organized positions, can have the opportunity to beat the attacker's concentration of forces, essential for achieving the mass needed to break the positions that the defender has set up in order to bar the directions of attack.

And while, in depth, these concentrations can maintain



their hardness and sheltering character against the disruptive effects of the traditional fire, at a shorter distance, when the attacker is compelled to assault with a systematic and typical infantry action the positions of the defender, the latter will be offered enticing occasions for carrying out very effective interventions of mass fire.

The problem for the attacker is slightly different. The defender's anchorage to strong positions will certainly offer non transient and remarkably thick objectives, especially along the line of contact, while, in depth, the static objectives will be comparatively less numerous. The objectives' hardness, except for the logistic bases, will continue to be very high (armoured or built protections) and the large concentrations of fire will obtain almost exclusively shock effects or force the defender inside his positions, preventing him from

reacting efficiently with fire.

In short, from what we have just said, it emerges that we need, as regards the artillery action, mass interventions with disruptive saturation effects as well as "single" fire actions having a "capillary" character, great timeliness and outstanding precision.

For the first action, that of mass interventions – which are not a novelty from the requirement point of view – the best solution, as far as economy and effectiveness are concerned, is provided by the rocket launchers which, as we said, allow a great concentration of disruptive power and ample possibilities to saturate vast areas.

This entails the adoption of launching units and relevant fire control systems.

The second requirement, that of single fire actions of "capillary" character, is best met by the employment of the tradi-

The recent innovations in the fire control and target acquisition systems let us to anticipate that, in the near future, there will be new outlines for the employment of artillery – with the use of rocket launchers for mass saturation with disruptive effects; as well as for mines and jammers spreading – and of howitzers for interventions of extreme precision, with the employment of laser-guided shells. The photo shows two FH-70, 155 mm howitzers of the British Army in action.

tional gun's fire.

In order to satisfactorily meet this requirement, great precision and timeliness are in fact needed, because it regards individual, point-size objectives, very mobile and very hard; consequently, fire must be pinpointed on the target.

We have thus outlined the two main components of the support and interdiction fire not

– and this must be stressed – of the distant future, but of a very near future, because all fire delivery and control systems can already be employed in the field.

ARTILLERY'S NEW OUTLINES OF EMPLOYMENT

Having thus summarily examined the real situation of the field employment of the weapon systems, of the fire control and fire-sources determination systems, as well as the systems to determine the type of the objectives, and consequently the type of intervention, we can now outline the new operational framework of the artillery.

The essential weapon systems for ensuring an adequate fire support must include the rocket launcher and the artillery components. The employment must envisage the use of rocket launchers for saturation or mass interventions with disruptive effects and splinters against mobile objectives, besides special actions, such as minelaying, jamming, etc., and the use of the artillery (the traditional gun) for pinpoint interventions by means of laser-guided shells.

Of course, in particular instances, the artillery can always carry out fire actions with mass interventions with traditional shells.

The concept of deployments will have to be radically changed.

The ease with which the origin of the trajectories can be determined, the rapidity of processing the data for retaliation fire and the possibility for the systems to self-determine the positions, require a new vision, which foresees and permits deployments of shapes as various and as irregular as possible, in which each weapon system, or the whole deployed unit, must be able to change its position very frequently in order to avoid the certain determination of its position by the enemy and the consequent swift arrival of the adversary retaliation fire.

Moreover, it is essential to consider that while the self-propelled artillery and the rocket



launcher systems are efficiently protected against splinters and disruption effects and have therefore a good chance to survive an out-of-target blow, for the towed artillery things are more serious.

They are today highly vulnerable to an enemy fire reaction and, on the other hand, one cannot think of displacing them after every intervention. It is therefore peremptory to envisage and plan their progressive and rapid replacement with self-propelled armoured systems.

CONDUCT OF FIRE, TACTICAL ORGANIZATION, COOPERATION

In the field of artillery proper, three elements play a most important rôle:

- the remarkable contribution they can give to laser-guided

CH-47C helicopter lifting, with its barycentric hook, a 155 mm. howitzer and relevant ammunition. The howitzer weighs 5.8 t and has a maximum range of 15 km.

fire actions on an individual target;

- the traditional capability to fire from rear positions which, though susceptible of being easily and rapidly detected, as we have said, can change their positions with much greater ease, compared to what the occupier of advanced or contact positions can do;

- the great capability and facility that the present systems of fire conduct and control have in data processing; this permits the simultaneous management of a large number of weapon systems.

These elements lead to foresee – as normal tactical organization – the “orientation in favour”, which shall have to be understood in terms more extreme than the traditional ones, such as to give the Commander of the combat units a more or less steady availability of the “in-favour-oriented” support for timely laser guided fire actions and to make him responsible also for the deployment within his own sector.

For the rocket launcher systems, on the contrary, the concentration will normally be at Major Unit level as regards interdiction and area saturation actions, with mass interventions with disruption and shock effects.

The anti-battery and anti-mortar actions will be of course conducted and coordinated at Major Unit Command level, where all the data of the detection systems are assembled and where the type and size of the systems to be employed will be decided according to the actual situation.

In cooperation, the automation of the various systems progressively introduced in the chain (detection, determination and designation of the targets request of intervention, selection of the type of intervention and source, transmission of data) enhances the function and training of the forward observer, especially in case of direct support. The forward observer must possess not so much high technical capabilities – where he is amply supported by the automated digital systems – but “tactical” gifts, such as, for instance, the ability to “see” the enemy, to locate and distinguish the objectives, to be timely in requesting and properly guiding the incoming hits.

CONCLUSION

The transfer to the field, today fully achieved, of new weapon systems, of computerized systems for fire direction and control, and location and determination of objectives, as

well as the realization of munitions and submunitions and of laser-guided systems, all existing in an operational environment that shows an impressive “hardness” and great mobility and fleetness of the targets, impose a new vision in tackling the problem of the support fire.

The fire-delivery means will have to include, in well balanced quantity, both rocket launcher systems and traditional artillery, but all will have to be self-propelled and well protected from the splinters effect.

The employment shall have to envisage mass interventions for the rocket launcher systems and mostly “capillary” interventions – with great timeliness and target precision – for the traditional artillery.

Consequently, the tactical organization will have to envisage, as a rule, a concentration of the rocket launcher systems while for the traditional artillery the choice will be high decentralization or, better still, an orientation in favour of a new type, in which the high Command could easily obtain temporary control; this is easily achieved with the new fire direction systems.

The deployments will have to give up the old schemes and replace them with maximum variety and pliability, having as first priority the search for suitable positions for concealment and exploitation of additional shelters. Frequent movements – particularly short ones – will have to be envisaged in a well organized plan, which will coordinate the reaching and the occupation of subsidiary positions.

The whole operation of the intervention praxis, especially the support, anti-battery and anti-mortar actions shall have to be sped-up – under penalty of losing all timely effectiveness – taking advantage of the new automatic computerized systems, foreseeing new procedures and consequently new goals and new training programmes. Finally, as regards the cooperation with the combat units – which remains the really qualifying element for the artillery on the battlefield – the close connection of the Com-

manders of the traditional artillery units (battery and battalion) with the Commanders of the Combat Units (minor combat groups and tactical groups) will have to proceed in a continuous and complete way, in order to ensure the complete integration of the support fire, within the framework of the resources available to the Commander of the combat units.

In this picture, the already essential rôle of the forward observers becomes even more important, owing to the necessary absolute timeliness of the interventions, for their capillarity and for the need of guiding the fire on the target. The number of the observers will have to be increased and their training adapted to the new requirements, in order to enable the Commander of the combat units to avail himself of that effective, intelligent and economic resource which, more than ever, artillery represents on the battlefield.

Luigi Ramponi



Major General Luigi Ramponi has attended the Military Academy, the Service Branch School and the War College. A Paratrooper, a Pilot and an Army Observer-Pilot, he has been Commander of the 11th Bersaglieri Battalion, of the 1st Bersaglieri Regiment and of the 8th “Garibaldi” Brigade; he has carried out his General Staff activities at the 5th Army Corps, at the War College and LANDSOUTH Headquarters, and has held the office of Military Attaché at the Italian Embassy in Washington. At present, Major General Ramponi is the Commander of the Military Region of Sardinia.

GRID

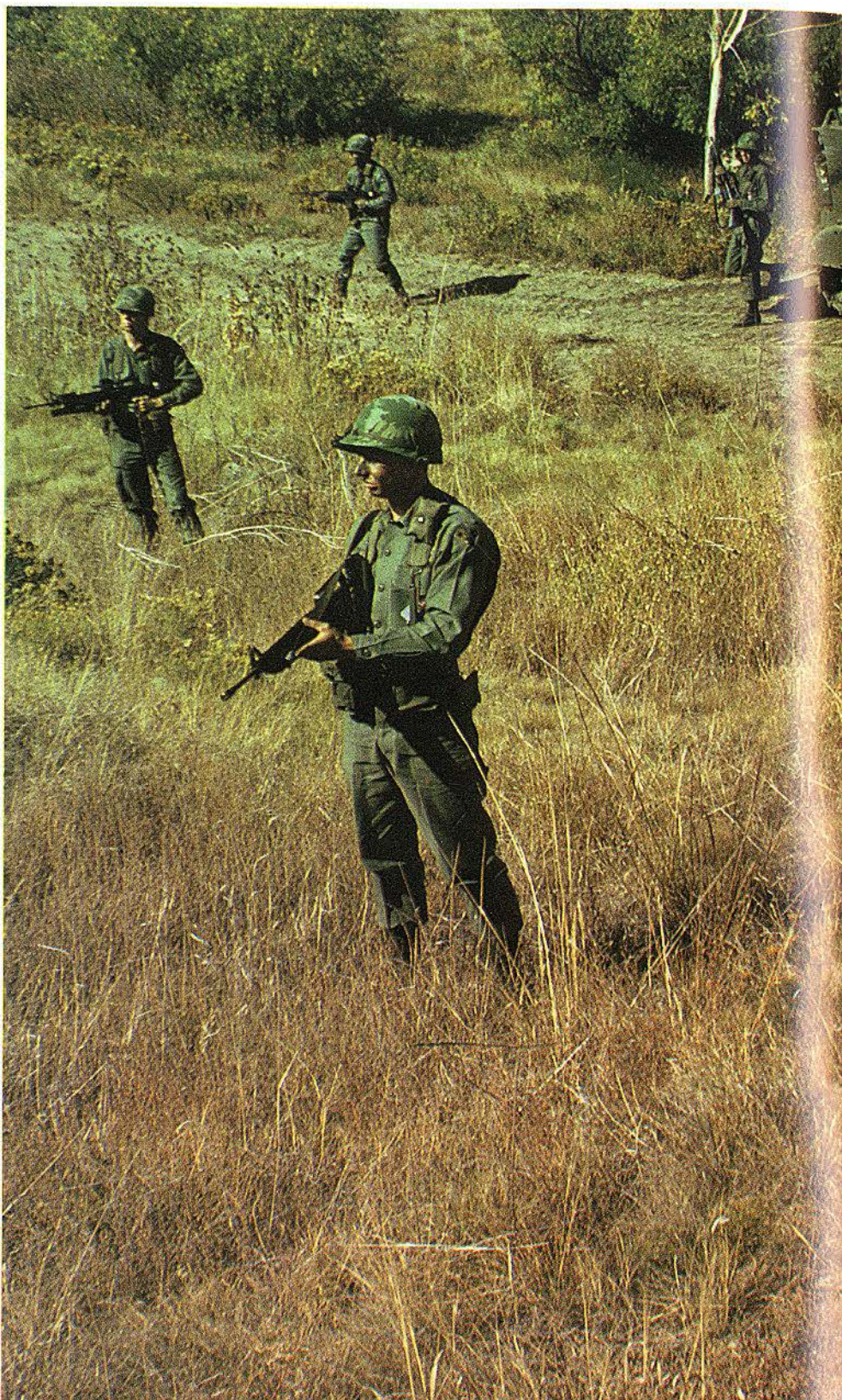
WHY A "GRID DEFENSE"

There is no doubt that a modern defense should be based on mechanized and armored units which are the only ones capable to carry out effective barrier actions, to concentrate power where required and to solve different operative situations.

These forces, however, have serious employment restrictions when environment conditions do not allow to exploit the possibility of movement of the vehicles and the fire power of their weapon systems.

Contrary to what could be thought, these restrictions are not only present in particular zones or in small areas; moreover in NATO theatre they are not only coming from terrain morphology but mainly from human settlements in the territory.

The 1976 edition of the US Army "Field Manual" (FM) 100-5 "Operations" described in a short section the environment characteristics of Central Europe (Germany) where responsibility of defense sectors is given to the US forces. Inter alia, it was written: "the German landscape is changing continuously with the increasing of population and industrialisation. Rural and industrial buildings cover more and more the countryside. There are hundreds of urban centers exceeding 50,000 inhabitants and little villages are more and more connected by built-up areas. Cities and towns form continuous urban areas, covering hundreds of square kilometers, as e.g.: Munich: sq km 310;



DEFENSE



Nuremberg-Fürt: sq km 247;
 Stuttgart: sq km 297; Frankfurt
 Mainz-Hanau: sq km 560; Hei-
 delberg-Mannheim: sq km 302;
 Ruhr area: sq km 1155; Cologne-
 Bonn: sq km 393.

The urbanization in Ger-
 many has a major impact on
 military operations. The German
 buildings are made out of

bricks, stones and cement. They
 can give protection and cover
 to the troops.

The villages represent
 "natural strongpoints". The
 urban areas reduce visibility
 and field of fire, making more
 difficult the acquisition of
 targets.

Fighting in Germany will

**automatically entail repeat-
 ed, almost continuous battles
 through cities, towns, villages
 and urbanized areas (fig. 1).**

In addition to the urbaniza-
 tion aspect, the "Field Manual"
 also considered the conse-
 quences of natural environment
 on the intervention possibilities
 of antitank guided missiles

DEVELOPMENT OF URBANIZATION IN WEST GERMANY

FIGURE 1





(ATGM's): "it is not easy to find long extended fields of fire for tanks and ATGM's".

In fact, due to terrain morphology, vegetation and buildings, the real line of fire is often broken.

In zones of major military interest of Germany (Fulda gap and Northern plain) the medium

percentage of loss of visibility between weapon and target, because of natural and artificial obstacles, is shown in figure 2.

Figure 3 gives the length in meters of the tract for which a target has to remain exposed so as to be hit (not necessarily destroyed or neutralized) (exposure segment = S).

Let's consider, for instance, an ATGM engaging a tank moving at a speed of 7 miles per hour (13 km/h) at a distance of 2000 meters.

The missile flightpath time is 10 seconds.

If the layer acquires and shoots in 10 seconds, the tank will have to remain uncovered

Above.

Theatre of possible confrontation between NATO and Warsaw Pact forces is Central Europe and in particular the Federal Republic of Germany, where the terrain is characterized by numerous natural and artificial obstacles. Thus it is not easy to find extended fields of fire for tanks and antitank guided missiles.

LACK OF RECIPROCAL VISIBILITY (MEAN PERCENTAGE) AND RELATED CAUSES			
AREAS	TERRAIN MORPHOLOGY	VEGETATION	CONSTRUCTIONS
Fulda Gap	58%	25%	17%
Northern Plain	21%	78%	1%

FIGURE 2

for 72 meters so as to be hit.

On the basis of terrain characteristics previously described, figure 4 shows the probability of the exposure segment (S) in the mentioned areas of interest in Germany.

Continuing the previous example, had the layer operated in Fulda area, he would have had 73% of probability of having a tank visible for 72 meters; in the Northern Plain, only about 48%.

These considerations on terrain, the assesment of the purely armored and mechanized threat, the acknowledgement of objective limitations in time and available defence means, have made the 5th US Army Corps in Germany examine the opportunity of studying the "Grid Defense" (GD). The experiments are still under way and even if the study is con-

ducted by mechanized and armored forces, the hypothesis is to employ against motorized and armored formations non-mechanized infantry using ambush technique for defensive actions, exploiting the cover possibilities of numerous villages that are spread in agricultural European plains. Those villages are usually from 1 to 3 km away from each other; therefore two or more of them can be organized in a system of co-operation. Areas with a width and depth of 12-20 sq km, with a zone of co-operating villages, are considered ideal for *grid defense* (fig. 5).

That concept was originally used by the German defence during 2nd World War, to contrast English attacks during the "Goodwood" operation (see article by the same author "The use of non-mechanized infantry", Rivista

Militare no. 1/'83). From that operation experience, English experts have developed a technique called "Framework Defence").

Grid defense consists in adapting such a technique to the operative possibilities and armament of the US infantry units.

SOME DIFFERENT APPROACHES

Beside the Army's interest for sole military purposes, the use of foot infantry is well liked by everybody trying to see realized, in Europe, a purely and unequivocal defensive system.

The spectre of nuclear holocaust provoked by mistake or by a wrong threat preception or by mere provocation, has given impulse to studies and proposals on the possibility of

FIGURE 3

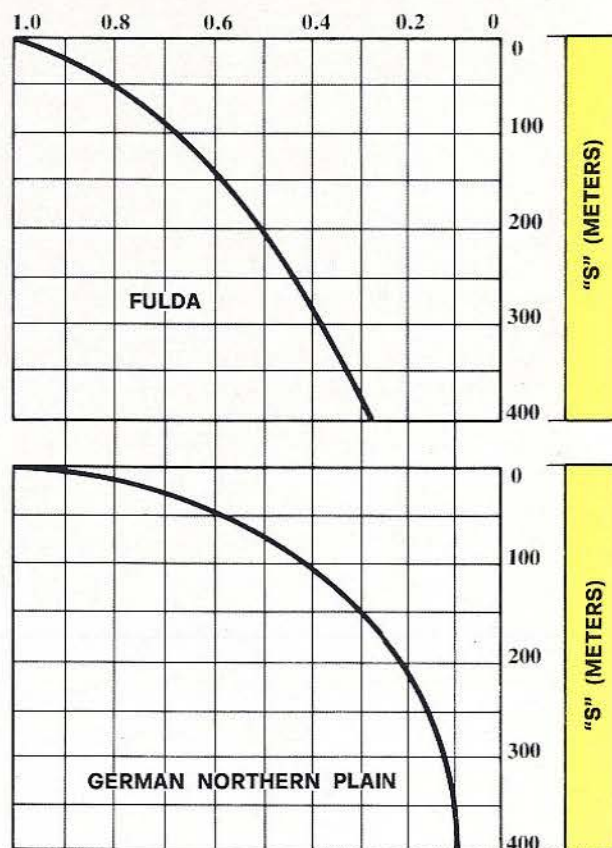
MINIMAL LENGTHS OF THE EXPOSURE SEGMENT (S) SO THAT A TARGET CAN BE HIT WITH SUCCESS

DISTANCE (METERS)	APPROX TRAJECTORY DURATION (SECONDS)	TANK SPEED (MILES/HOUR)	SPOTTING AND ACQUISITION TIME (SECONDS)				
			10	20	30	40	60
1000	5	4	27	45	63	81	117
		8	54	90	126	162	234
		13	90	150	210	270	390
2000	10	4	36	54	72	90	126
		8	72	108	144	180	252
		13	120	180	240	300	420
3000	15	4	45	63	81	99	135
		8	90	126	162	198	270
		13	150	210	270	330	450

LENGTH OF SEGMENTS (METERS)

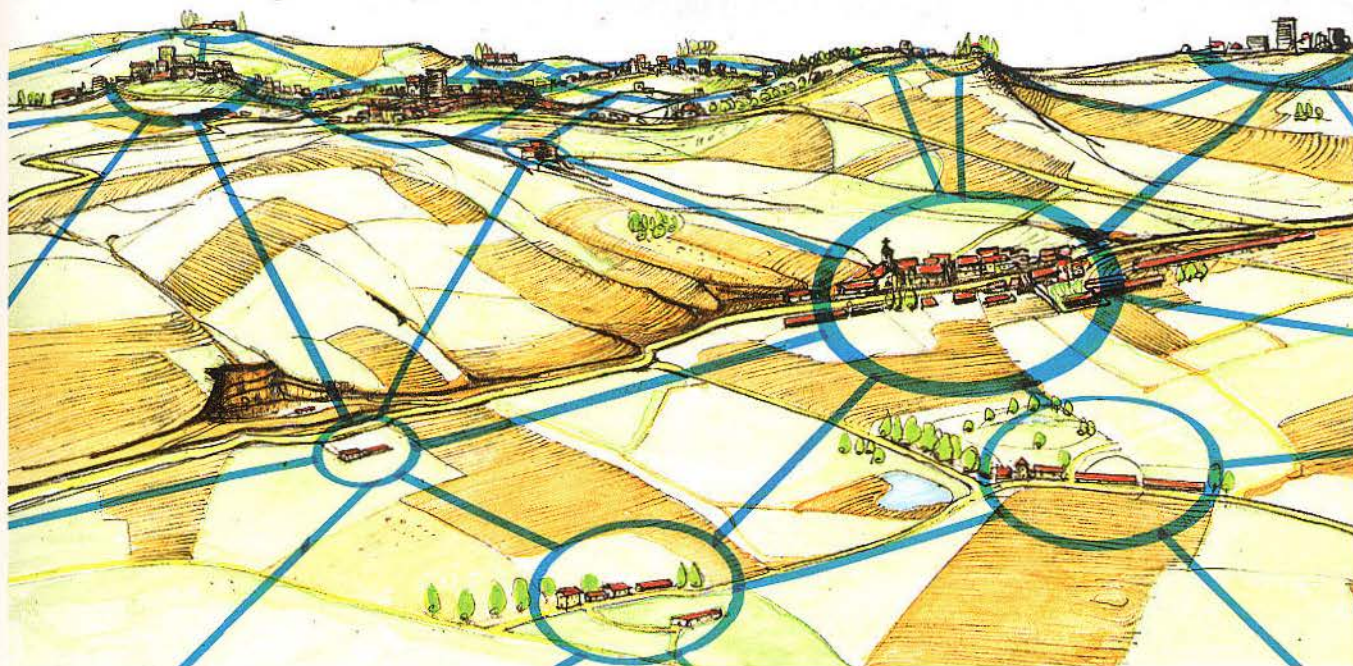
FIGURE 4

PROBABILITY THAT A RECIPROCAL VISIBILITY SEGMENT HAS A LENGTH AT LEAST EQUAL TO "S"



A POSSIBLE "GRID DEFENCE" ORGANIZATION

FIGURE 5



staging defensive systems different from the present ones and not involving nuclear weapons. It is the same concept long expressed in Germany by Dr. Horst Afheldt: "All today's European Armies are sons of Hitler's armoured units conceived to attack and to carry out "blitzkrieg". The Historical events of 2nd World War compelled Red Army and Allied Forces to get ready for the attack which was to lead to the liberation of Europe. The Army structure is not changed since then. The weapon systems have been modernized, new tanks have replaced the old ones, but the structural framework and the concept in using conventional forces have not changed. The problem is that this structure, with forces ready to attack from both sides, is highly de-stabilizing. It would be even more de-stabilizing if NATO had the capability of deeply striking the Warsaw Pact territory; and, finally, it would be a disaster if NATO had conventional forces equal to those of the Warsaw Pact: in this case the Soviet Union could use nuclear weapons first".

Without discussing Dr. Afheldt's considerations, it would be logical at this point to deduct that the only defense for Europe would consist in adopting the Trappist warning: "remember that you have to die". The German research instead points out two main requirements:

- avoiding that the Western defensive structure could offer paying targets to Soviet nuclear weapons (putting into effect a *no target structure*);
- changing Western Europe conventional structure (developed for attack 40 years ago) into a *defensive specialized structure*.

In accordance to these principles, the "Study Group of Alternative Security Policies" of the Max Planck Institut of Sternberg, has developed a defence model based on three essential elements:

- a purely defensive net of light infantry;
- a net of high precision field artillery (rockets or missiles and grenades with terminal self-guide;

A kind of "grid" defence hypothesizes the employment of infantry units in ambush defensive actions against motorised and armored enemy formations, using the cover possibilities offered by many villages present on european territory. Such villages, normally distant each other from 1 to 3 km, can be organized in a cooperative system. The figure shows a possible defensive organization.

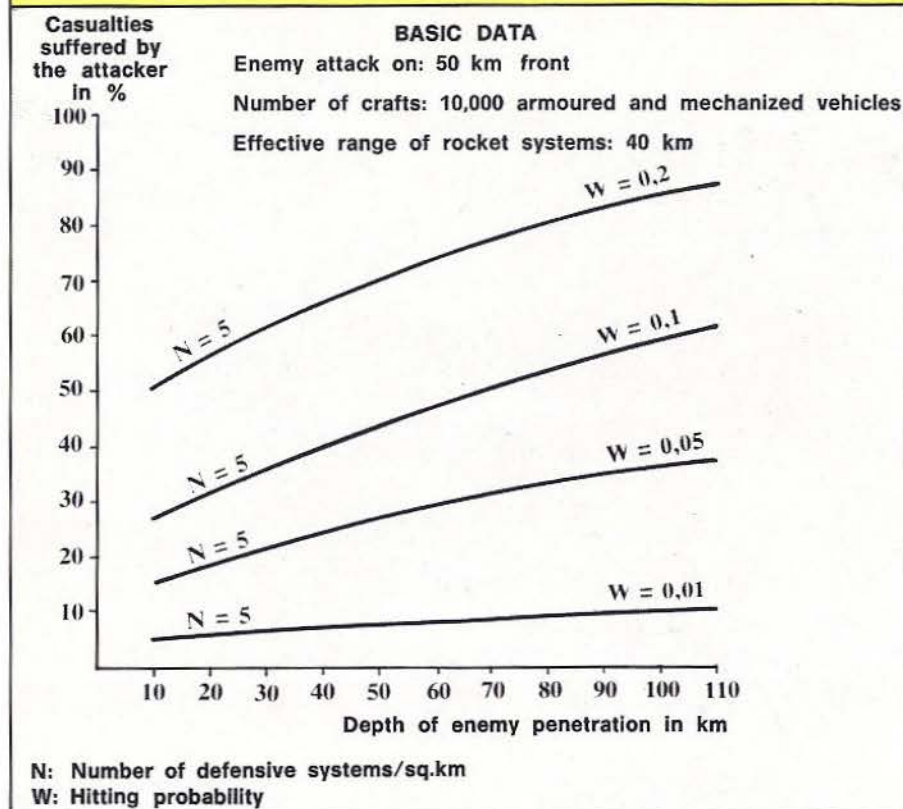
- an information net for spotting and acquiring targets.

According to Dr. Afheldt and his collaborators, the net of high precision artillery, even if equipped with rockets with no more than 20% of *Single Shot Kill Probability (SSKP)* and 40/50 km range, could permit to eliminate a very high number of enemy armored and mechanized vehicles already during the first Kms of penetration.

For instance, assuming to have 5 rocket-launchers per sq km, in case of attack coming from 10,000 armoured vehicles

INFLUENCE OF ACCURACY

FIGURE 6



distributed on a 50 km front, after 10 km the enemy would have lost 50% of its vehicles (fig. 6). If the artillery had a 10% SSKP, in the same attack condition the enemy would lose 50% of its tanks after a 65 km penetration. Of the same interest are the data regarding the infantry net that the Max Planck Institut has considered for European defense.

Western Germany national territory ought to be garrisoned by small infantry units (in the average 3-4 men per sq km) with an area of employment coinciding with the one of garrison. These units ought to be equipped with antipersonnel weapons (individual and at unit level), mines and mine launchers and, above all, with highly sophisticated anti-tank weapons.

This defensive net should give protection to the men, and permit the use of weapons with remote control. Practically, always with respect to the *no target* principle, weapons and operators should be at about 200-300 meters from each other.

Under an operative technique profile, another interesting point of view is exposed by Jochen Loser, former General in the German Army, in his book "Neutrality for Central Europe - the end of the Blocs". The defensive net considered in Germany by General Loser starts from the Eastern frontier and ends to the Weser-Lech rivers line. In this area the defence system develops through successive belts where light defensive forces (Jagdkampf-gruppe), with a covering task and the aim of canalizing the enemy forces towards prearranged zones of obstacles (sperren), and mobile forces at Brigade level with counterattack tasks, alternatively operate.

Such a procedure is based on principles of territorial defense, self-protection, civil defense, non-use of nuclear weapons. As for the technical aspect, it tends to prefer skirmishes and ambush actions to battles, exploitation of obstacles and firepower to movement, use of small units with large autonomy

to classic forces at Brigade and Division level. Dr. Afheldt's and General Loser's structures do not take into account the defensive possibilities offered by urban and rural centers (although not excluding them) and, in the way those have been illustrated, they still appear to be at a conceptual phase in which the real availability of means and resources, and some essential technical procedures are not always fully taken into account. Moreover, those structures seem to have more political purposes (achievement of a *non-provocative defense*) than military purposes.

A concept of *grid defense* that takes into account the real possibilities of actual instruments, the natural environment evaluation, the limitations in training and employing Western Armies appears to be of a different nature. Beside that, it would be compatible with other classical defensive actions or with the techniques and aims of "Deep Strike" or Airland Battle".

Considering that in our country phenomena of urbanization, building development, specialized cultivations-which have made US experts study alternatives forms of defensive battles in Germany - have had exceptional intensity and rhythms, we think that it can be useful to mention the technical operative outlines of *grid defense* as they can be, empirically detected without pretence of completeness.

DEFINITION

Grid defense is a co-operative defensive procedure based on fire positions mainly organized by "foot" infantry located in villages and small rural centers. Mobility is ensured by combined or isolated use of helicopters, mechanized and armored carriers, and "on foot" movements. *Grid defense* aims at disorganizing, delaying, destructing enemy mechanized and armored troops. This tactic is devised to punish the enemy and

does not consider, as a main task to hold positions for an undetermined time.

ORGANIZATION

Avenues of approach: the various avenues of approach leading to the areas with high density of villages, have to be analyzed and evaluated in order to locate:

- avenues of approach for motorized and armored units;
- avenues of approach for units on foot;
- dead areas.

Small villages are essential elements on which a "grid" defence organization is based. The figure shows the defensive organization of a village with the forward edge facing the most dangerous avenue of approach, on which the main defensive position is built. The secondary edges of the village are facing the minor avenues of approach (B1 and B2) and the herein located positions can also engage fire on the near avenues of approach leading to nearby villages. The rear edge of the village in the area from which the unit is supposed to evacuate (C).

The various defense weapons have to be placed so as to block the avenues of approach according to types and capacities of the avenues themselves. During periods of limited visibility the avenues of approach and-always-the dead areas are to be covered with sensors, radars and patrols. Obstacles and fire support have to be planned in order to prevent the enemy from entering particular areas or to canalize him in those avenues of approach where the defense intervention is more likely to be effective. Although not absolutely necessary, it is preferable that every avenue of approach for motorized and armored units could be included in the intervention sector of one of the cooperative village defense system. The most dangerous avenue of approach will normally be the one reserved to motorized and armored units.

Organization of a village (fig. 7):

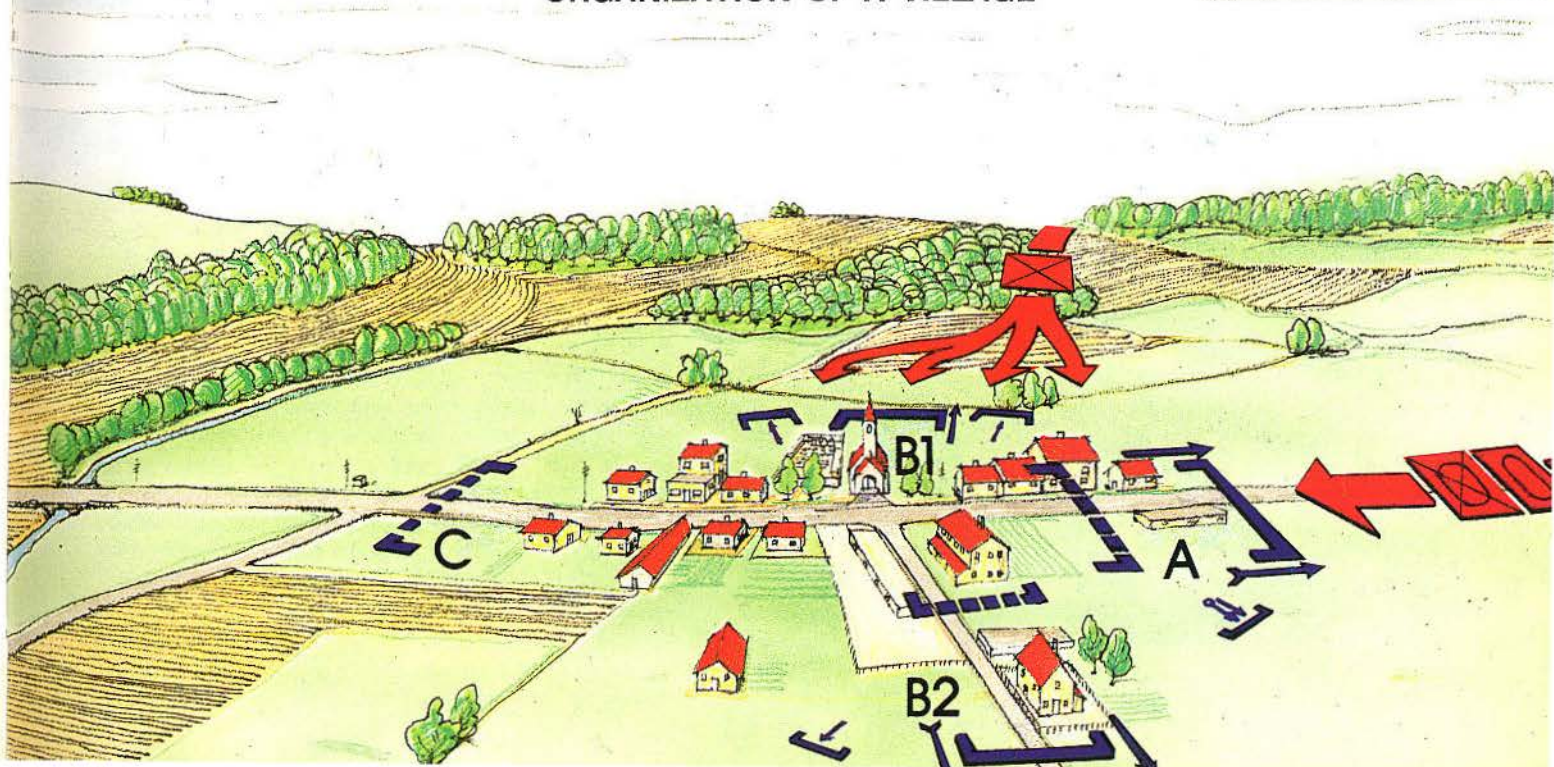
- the forward edge of the village is where the most dan-

gerous avenue of approach leads. On this edge the main defense position is organized (A);

- the other edges of the village face minor avenues of approach and their positions can also intervene against one main avenue of approach leading to another village (B1 and B2);
- the rear edge of the village is the area from where the units will evacuate. Sometimes the rear edge can be organized for defence in order to engage those enemy forces that have managed to outflank the position (C);
- the main antitank weapons have to be placed on the forward edge. For each weapon at least two alternate positions have to be organized;
- the riflemen organize positions capable to protect anti-tank pits and guarantee the close defence of the village during periods of scarce visibility. Sentries have to use building roofs or other high positions in order to spot at the right moment the enemy units;
- riflemen pound at avenues of approach suitable to units on

FIGURE 7

ORGANIZATION OF A VILLAGE



foot and organize observation and/or listening posts to avoid a surprise action and intervene quickly on dead areas. They have to be equipped with enough short range antitank weapons so as to give close protection in case of flank attack from motorized units;

- supplementary and/or alternative positions for antitank weapons and riflemen have to be prepared on the secondary edge so that it is possible to intervene on the main avenue of approach leading to another village;

- every defensive element has to have entry itineraries to an area, close to the rear edge, to be used as a gathering point, to embark men on land and air means of transportation, or from where it would be possible to activate other positions.

EMPLOYMENT PROCEDURES

Surprise is the key element. In order to achieve maximum surprise, the defender must develop a detailed plan, arrange an accurate camouflage and discipline movements and fire control.

Every anti-tank unit must have a specific intervention sector to deceive the enemy and get the maximum of surprise, the first antitank action of fire must be done simultaneously by all weapons. Subsequently, fire control must be such as to avoid that a target be pounded by more than one weapon.

Indirect fire is planned so that the enemy is and will remain engaged and that the enemy formations could be destroyed and/or cut off from reinforcements. It is essential to plan and prearrange direct and indirect fire on minor avenues of approach. The artillery must be used to disorganize enemy troops and to contribute to battlefield illumination.

Obstacles must be positioned in such a way as to stop and/or canalize the enemy troops into areas most favorable to

antitank intervention. Protective obstacles will be positioned in minor avenues of approach. Booby traps and explosive devices constitute ways of alert for possible comings from dead areas.

On a daytime attack, riflemen must favour dissociation of infantry from armoured means. At nighttime, riflemen offer close protection to antitank systems and carry out patrolling, observation and listening. During movements from one edge of the village to another, riflemen move advancing by bounds, individually or in small groups. When the unit or part of it has reached the rear edge of the village and is waiting for transportation means for withdrawing, riflemen put into action a defensive perimeter around the main weapon systems. They also constitute counterattack groups to help disengagement of the forces under particular pressure.

Withdrawal from the village can be done by helicopters, mechanized and armoured vehicles, or on foot.

Concealed approaching itineraries are particularly necessary for helicopters. The embarkation zone must be easily recognizable and allow vehicles and troops to move in quickly.

Withdrawal by helicopters must be tried by day and nighttime whenever possible. During withdrawal a careful evaluation of time is essential to reduce aircraft exposure at minimum level. Under no circumstances, however, an aircraft can remain on the ground for more than three minutes.

Withdrawal on mechanized and armoured means must be planned in detail and defiladed itineraries are to be used to the highest extent. One or more assembly areas must be chosen as meeting points for carriers and troops. It might be necessary for mechanized and armoured troops to protect the riflemen withdrawing towards the assembly areas by fire of their weapon systems. While withdrawing, vehicles will move by bounds till they have reached protected

positions or areas out of range of enemy direct fire.

Withdrawal on foot is normally carried out when the time factor is not binding and when concealed outgoing itineraries are available (e.g. crossing of woods).

Withdrawal on foot must be considered the only one possible when units are cut off from the rest of the system. It is normally done by night and is in any case protected by prearranged artillery fire and by aircraft.

When a unit has carried out its task and gets ready for the withdrawal, combat responsibility must be handed over to another unit located in a village belonging to the same system. It is very important that conventional command signals and modalities of checking credentials are predetermined and well known in order to ease the passage of command and unit exfiltrations from one position to the other.

Every opportunity for counter-attack must be exploited to win the enemy once and for all. In that case, the possibility of continuing the defence from the same village will have to be carefully evaluated. The enemy, in fact, would know the position and the surprise effect would not be exploited anymore. In particular cases, the strength of the position will prevail over other considerations.

SPECIAL ASPECTS

Antiaircraft defence is planned in details. Man-portable ground air defense weapon systems are located on positions covering the most probable air ways for both fixed and rotary wing aircraft. Areas particularly suitable to be used by enemy attack helicopters must be detected.

On such areas, prearranged artillery fire is to be organized.

It is improbable that the casualties could be evacuated in daytime. Personnel must be then prepared to the possibility

Right.

M75 Armored Personnel Carriers of the Belgian Army crossing a river on a pontoon bridge built by "MOFAB" amphibious vehicles.

Below.

Belgian infantryman equipped with a TR-PP-11 transceiver and an F.N. light automatic rifle cal. 7.62 NATO.

of having to delay rescue and medical evacuation. The unit must have additional medical equipment.

Supplies during combat will be difficult; before combat they must be avoided so as not to compromise the position. The units then must dispose of enough equipment and supplies for the presumed entire period, from the moment of the occupation to that when the position is abandoned.

The control of civilians is a particularly important element. The ideal would be to evacuate the village completely. If that is not possible, the population will have to be warned, through local authorities, that fighting is going to occur in the area. Civilians not intending to leave the village, must gather in that part of village believed to be most safe and will be constantly controlled to avoid the failure of the defense plan.

For these purposes, local authorities are to be used. Military personnel will have to be selected and trained to carry out liaison tasks and improve civil-military cooperation.

REMARKS

As we have said before, *grid defense* is not a new concept, not even for the US doctrine that, until some years ago, had used techniques similar to those described for "areal defense". But new is the concept of employing non-mechanized infantry in the European Theatre, normally considered a field for mechanized and armoured units.



This concept results from the following considerations:

- the high intrinsic and running cost of mechanized and armored units does not consent at present to deploy in Europe forces big enough to guarantee an effective defense. For example, an Army Corps responsible of an area of approx 70 km has 1 mechanized Division, 1 armored Division and 1 cavalry regiment in order to contrast an estimated threat of 6 Divisions in first array (0-72 hours), of 4-6 Divisions in second array (72-84 hours);
- intervention of external mechanized and armored reinforcements is bound to the availability of means and materials located in advance, to the capability of local forces to defend and protect the places where those materials are located, to the capability of the forces to contrast the enemy for enough time to allow the intervention of reinforcements. At present, such an intervention requires a minimum of three days for the bulk of manoeuvre forces, and up to six days for reinforcements.

In this kind of situation, employment of non-mechanized

infantry can be by far regarded as the most economical and timely. But we must add that it is an easy solution to a complex problem and that must be critically analysed so that economical factors would not exceedingly weigh on the operative considerations.

Another consideration is about *grid defense's* staging place and moment. The US and the UK tend to see its employment, in Europe, in the rear area of the defensive position, so as to form a last "embankment" against the enemy advance, and give reinforcements time to countermanoeuvre or establish a new defensive array. But, taking into account that *grid defense* can achieve a high rate of friction against mechanized and armored enemy troops, it would be maybe more convenient to adopt such a procedure in the most advanced areas of the defence system (where it is possible to give in space) and during the early days of the fight (when the enemy forces' concentration is higher). In any case, the elements conditioning such a choice would always be the entity and type of enemy forces and the natural environment.

Thas is because if little harm would ensue from the *grid defense* technique applied against the wrong kind of enemy forces, it would be suicidal to try such a defense under unsuitable environmental conditions. As we have said before, those conditions not only can be found in Italy, but they are present in almost the totality of the national territory, and in any case reach the highest intensity in the very areas of greatest military importance. Evidence can be given by examining statistic data referring to phenomena indicators most directly connected to *grid defense* aspects, e.g. urbanization and development of built-up areas, agriculture, communication lines. Statistics from the 1982 Italian Statistics Yearbook give the following outstanding data:

- the Friuli region is formed by 57,4% of hills and plains, 42% of mountains;
- Friuli has a commune every 36 sq km;
- 90% of North Eastern Italy has a population from 500 to 20,000;
- considering the house-room ratio, we find that Friuli's houses built in 1979 have an average of 9 rooms each;
- North Eastern regions have a population index of about 0,7. That means, for instance, that there are four rooms every three people;
- 41% of Friuli is cultivated, 22% is covered with woods;
- 60% of Friuli is cultivated by direct growers (average of 5 hectares $\times$ grower), 38% in cultivated by farms (average 170 hectares $\times$ farm);
- in all North Eastern Italy there is intensive and almost sole corn and vineyards growing;
- in relation to its surface, Friuli has one of lowest roadway ratios.



A "Marder" armored combat personnel carrier at full speed.

GRID DEFENSE



A MBB BO-105 helicopter equipped with 6 "MILAN" antitank wire-guided missiles.

These data clearly indicate that, due to urban concentration, territory utilization, building and communication development, Northern Italy is a natural defensive theatre, quite ideal for *grid defense*. Friuli in particular is worth of special remarks in regard to:

- building development;
- communications.

As far as the first point is concerned, we have already seen that Friuli has a very high room-house ratio and a very low population ratio. These are typical indicators connected with groups of residential buildings formed by one or two family units with independent services. In regard to our subject, the evolution of that phenomenon has as a result the extension of urbanized areas with consequent increasing of obstacles to observation and shooting, and limitations to off-road vehicles.

As for the second point (communications), Friuli has a very low road-surface ratio. Basically there is an objective (relative) lack of roads. From that point can result an interesting consideration for a defense relying on small built-up areas and finalized to stop mechanized and armoured troops compelled to move along the roads by natural or artificial obstacles: number and possibilities of routes to the defensive area are smaller than those of the rear territory and villages (lined up just along the roads) forming a close, continuous and constantly expanding net of fixed passages. Adding to that the barrier capabilities of a permanent fortification system, we can conclude that *grid defense* can be particularly well applied on the advanced area of the North Eastern zone. *Grid defense*, if integrated by the traditional systems adopted by mechanized and armored forces, can constitute the basis for a new defensive system. A system able to rebalance the defense and to take into consideration other necessities of our national territory.

Fabio Mini



Lt. Col. Fabio Mini was commissioned in Infantry (bersaglieri) from the Military Academy and was graduated from the Italian Army War College. He was platoon leader and company commander in the 2nd Bersaglieri btn. "Governolo"; served as Operations Officer with the 4th Armoured Regiment "Legnano" and was G4 in the Brigade (mech.) "Granatieri di Sardegna", operations officer, Deputy and Chief of the Exercise and Evaluation Division (EED) in the 4th US Infantry Division (mech.) - Ft. Carson, Colorado. Assigned to the Italian Army General Staff, has served as Staff Officer within the DCS for Personnel Office and as Chief of the Studies Coordination Division with the Office of the Army Chief of Staff. He has commanded the 1st Bersaglieri Battalion "La Marmora" and his present posting is with the Army General Staff Public Affairs Office. He is US Army Commendation Medal recipient.

AIRBORNE ELECTRO -



OPTICAL SYSTEMS

FOR BATTLEFIELD SURVEILLANCE



INTRODUCTION

In the extremely fluid situation characterizing a hypothetical battlefield of the future, the defence's chances of success would depend on its capacity to supply the command and control centres with prompt, possibly real-time, information.

In the past, battlefield surveillance was carried out by aircraft equipped with conventional photographic systems, and so darkness and atmospheric factors often proved to be insurmountable obstacles. Rapid progress has since been made in overcoming these limitations by means of new types of sensors and a special effort has been devoted to developing electro-optical systems.

The latter may be divided into two categories: television (TV) systems and infrared (IR) systems of the type known as thermal imagers.

The former are capable of operating at very low levels of environmental illumination, while the latter are independent of this parameter and so their performance is not affected by factors such as smoke, haze or dust.

Both systems can operate without the need for active elements (conventional reflectors or infrared projectors) to illuminate the scene. As these systems are completely passive they are particularly suitable for operating in a hostile electronic environment.

Even if electro-optical systems can be mounted on a wide range of vectors, aircraft are preferable owing to their intrinsic mobility, which ensures flexibility of use and the possibility of exploring even very vast areas.

The present article sets out to examine technological developments in the field of low level television (LLTV) and thermal imagers. The article is concluded with the recommendation of a possible system for use in battlefield surveillance and with the identification of the most suitable type of aircraft for this kind of mission.

THE PROBLEM OF NIGHT VISION

Natural light levels range from 10^5 lux in full sunlight to 10^{-4} lux on a cloudy moonless night. Table A shows the illumination values corresponding to the different conditions of natural light. The human eye operates at its maximum efficiency at the higher levels, at which its resolving power, i.e. the capacity to see two objects placed close together as separate items, allows an angle of $1'$ to be appreciated. This is the equivalent of a separation of 1 m at a distance of 1 Km. As the level of illumination descends below 1 lux, resolution grows smaller. The eye manages to partially accommodate to darkness by integrating the signals generated by the nerve endings of the retina, thus increasing the overall signal level. However, at 10^{-1} lux it is very difficult to distinguish colours, and between this level and 10^{-3} lux (corresponding to a clear starlit night), the type of vision used changes from photopic to scotopic, in which nerve endings other than the primary ones are used.

Tab. A

LEVELS OF ILLUMINATION (1)	
LUX	NATURAL CONDITIONS
10^6	Sunlit snow
10^5	Bright sunlight
10^3	Cloudy sky
10^2	Dim daylight
10	Early dusk
1	Late dusk
10^{-1}	Full moon
10^{-2}	Crescent moon
10^{-3}	Clear moonless night
10^{-4}	Cloudy moonless night
(1) For the sake of comparison, 30 lux are necessary to be able to read.	

At the end of the accommodation process, which can take up to 30 minutes, the eye can be said to have adapted to darkness; this means that it has greater sensitivity but lower resolution.

Therefore, although the eye can operate down to the lowest level of natural illumination (10^{-4} lux), all perception of colour is lost and only large objects contrasting with their background can be perceived.

Gates Learjet M.35 A, ECM and target designation aircraft.

LLTV SYSTEMS

The core of a conventional tele-camera consists of a device known as the camera tube, the function of which is to transform images into electric signals. A camera tube works by analysing the reproduction of the observed scene on a photosensitive surface. This image is created by the light energy reflected from the scene itself. The performance of a television system is, however, highly sensitive to the level of environmental illumination and special camera tubes have had to be developed for operation under low illumination conditions. The main devices of this kind are the Ebsicon (Electron Bombardment Silicon Induced Conductivity Vidicon) and the Image Isocon. Both systems interface with the external world by means of a photoemissive input surface known as a photocathode, which emits a number of electrons that is proportionate to the luminance of the image elements. In the Ebsicon tube these electrons are accelerated by a voltage of 10 KV and collide with a screen (the target) consisting of a set of silicon diodes. The diodes are kept in a state of inverse polarization by means of a scanning electron beam sweeping continuously over the target. In the absence of illumination this state of polarization, which corresponds to a very low discharge current and a comparatively high capacity value, remains between one scan by the beam and the next. In the presence of a minimum illumination value the high energy electrons emitted by the photocathode are absorbed by the N regions of the diode, producing electron-hole pairs, i.e. pairs of charge carriers of opposite sign.

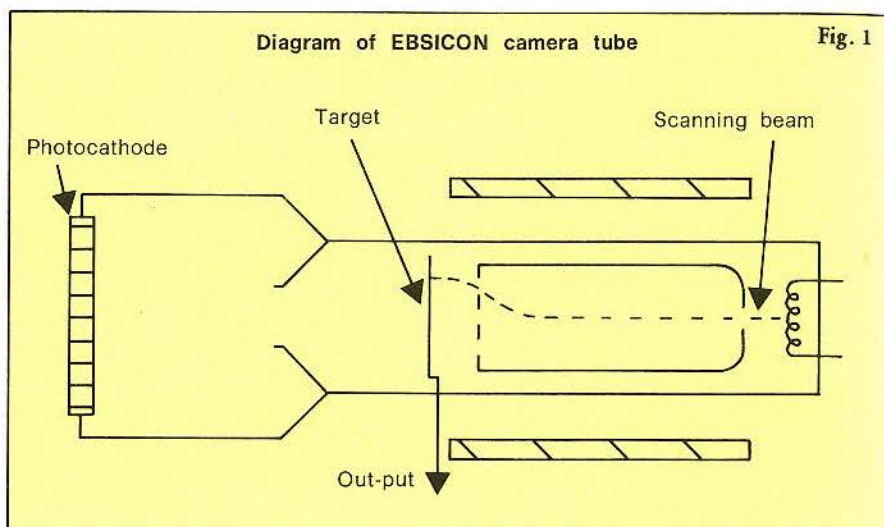


Fig. 1

These carriers discharge the condensers formed by the diodes to an extent which varies according to their number. The pre-existing situation is restored by the electrons deposited by the scanning beam as it passes. The signal current determined in the output circuit is proportional to the electric charge lost by the diodes during the interval between one beam pass and the next. This is proportional to the number of electrons emitted by the photocathode and therefore the current becomes the equivalent of the image in terms of electric signal. The Ebsicon tube (fig. 1) has a diameter of 16 mm and performs well down to the minimum values of 10^{-1} lux.

In the camera tubes of the Image Isocon type (fig. 2) a voltage of about

500 V is used to accelerate the electrons emitted by the photocathode. The electrons strike a target consisting of a semi-conductor membrane. After the collision, secondary electrons are emitted which are collected by a grid on which a positive potential is maintained. In this way, a positive charge distribution is set up which is proportional to the incident radiation. The original conditions are then restored by a scanning electron beam. The latter has a lateral velocity component consisting of a magnetic focussing system which forces it to follow a spiral path. The instant it reaches the target it gives off a number of electrons which is dependent on the distribution of the existing charge.

These electrons have no lateral velocity component and return along the

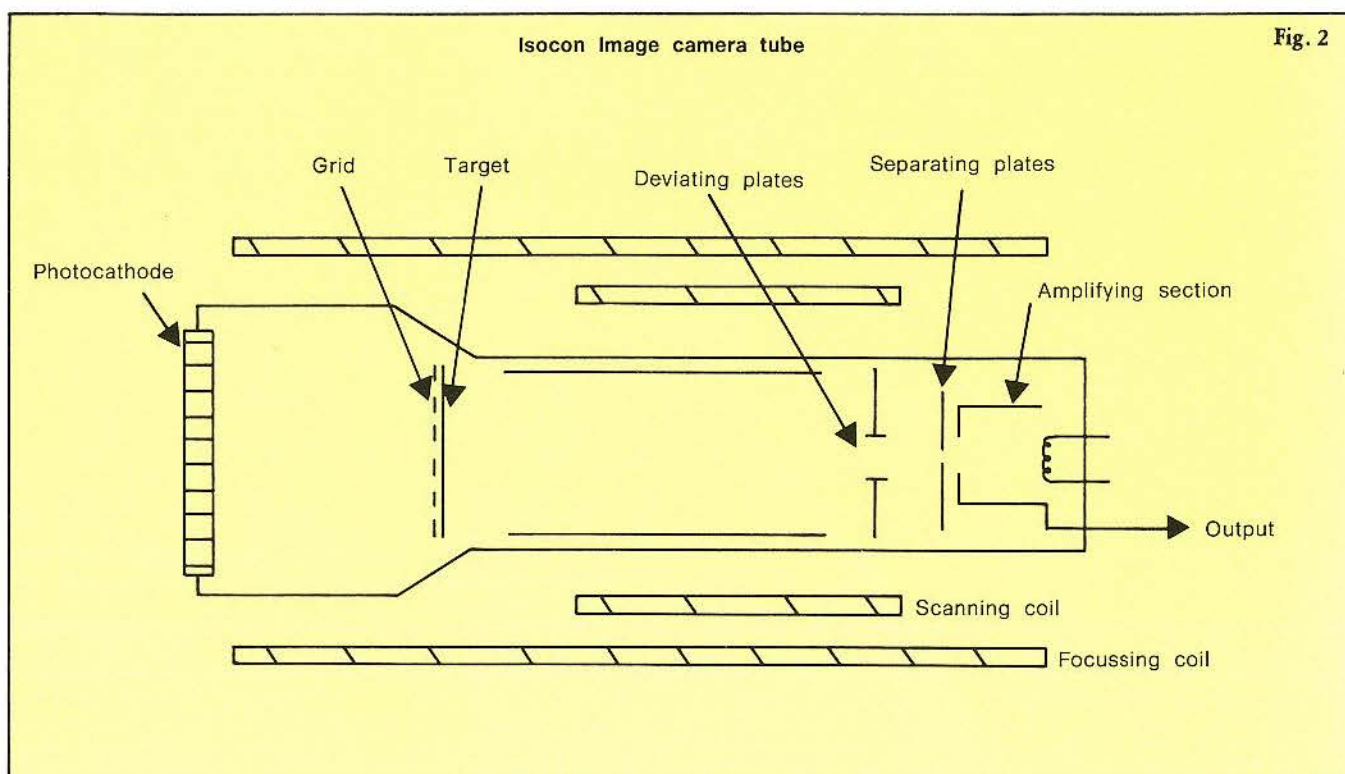


Fig. 2

axis of the tube. They are comparatively unaffected by electronic noise and are subjected to an amplification process. The signal thus formed is then sent to the output circuit. The electron beam, which does possess a large noise component, returns with a spiral motion with an amplitude such as to allow special separating plates to be used to block it.

Using this procedure it is possible to construct a comparatively "clean" video signal, i.e. one that is not disturbed by noise generated inside the camera device. Tubes of the Image Isocon type come with diameters ranging from 36 to 60 mm and are capable of good performance up to 10^{-2} lux.

Both the Image Isocon and the Ebsicon are often used as the second stage of a system, the first stage of which is an image intensifier. The latter is an electronic device which reproduces on a fluorescent screen the light radiation impinging on its photoemissive surface. In this way a kind of preamplification occurs which allows both the camera tubes to work up to 10^{-4} lux.

Experimental results have shown that the Image Isocon offers a slightly better performance in terms of resolution. Furthermore, the latter device is less likely to be damaged by the sudden appearance of a very bright light source. In the silicon target of the Ebsicon tube a sudden overload causes a spread of charge into the surrounding substrate, making the signal unutilizable over a large area.

Another factor to be taken into account is performance in the case of moving objects. This performance is dependent on the response time, defined as the interval of time required to follow the transition of a point on the screen from white to black. Ebsicon has a response time that is determined by the target's capacity. The Image Isocon has a response time due to the difficulty of having the electron beam "land" on the points of the target surface where the potential range is small. The smaller the environmental illumination the more difficult this problem becomes.

The Ebsicon tube thus represents the better solution when a good resolution of moving images is required. With its smaller diameter, the Ebsicon is to be preferred also from the standpoint of size.

SOLID STATE TELECAMERAS

The development of CCD (Charge Coupled Device) technology has led to the construction of telecameras without a camera tube, i.e. built out of solid state components only. The basic structure of a CCD matrix (a matrix is an array of elements ordered into rows and columns) consists of three layers: a set of conductor electrodes, a silicon substrate and a separating layer of silicon dioxide. The CCDs have the capacity to store and transfer information in the form of electric charge packets. The latter are stored in zones known as potential wells; the presence or absence

of charge in one of these zones is used to represent information. The charge packets can be shifted from one well to another by applying suitable voltages to the electrodes.

The use of CCDs instead of a camera tube is made possible by the fact that the mechanisms that allow the introduction of charge packets include also that of exposure to light. In fact, in a CCD array the absorption of radiation by the silicon substrate gives off a number of electrons which is proportional to the amount of incident radiation. By collecting and accumulating the electric charges thus created, a video signal can be produced.

The first CCD telecameras used 100×100 arrays, but larger ones have since been introduced (table B).

Having a larger array means that the image is formed by a greater number of elements, which enhances resolution. However, an array of hundreds of thousands of cells produces data at such a high speed that they become very hard to handle. The images produced by a 400×400 array developed by Texas Instruments for the California Institute of Technology Jet Propulsion Laboratory consist of 160,000 elements. Since a television type display requires the images to be reproduced with a frequency (frame rate) of 25 Hz, this means that the signals generated by single elements must be sent to the output

production. CCD telecameras have performed satisfactorily down to a minimum of $1 \cdot 10^{-1}$ lux; at lower levels of illumination the effectiveness of these systems is limited by the amount of noise generated in the amplification circuits. Further limitations consist of the difficulties in coping with sudden overloading and loss along the charge packet transfer channels. In the larger arrays, the latter difficulty can mean corruption of the signal and thus of the image produced. Technology is still seeking a solution to these problems.

INFRARED SYSTEMS

Infrared rays consist of electromagnetic radiation produced by the movement of atoms in any body whose temperature exceeds absolute zero (-273°C). These rays occupy a portion of the electromagnetic spectrum in the vicinity of visible light and have a wavelength ranging from 0.75 microns (1 micron = 10^{-6} m) and 1000 microns.

Infrared rays are attenuated by absorption by the molecules of gases in the atmosphere and by diffusion through suspended particles. The phenomenon of absorption is linked to the wavelength and is significant for certain values of this parameter and negligible for others. The mechanism of diffusion can be considered independent of wave-

Tab. B

EXAMPLES OF CCD ARRAYS			
MANUFACTURER	No. OF ELEMENTS (Vert. $\times$ Horiz.)	SPACING	
		Vert. (mm)	Horiz. (mm)
FAIRCHILD	488 $\times$ 380	0.0178	0.0305
RCA	512 $\times$ 320	0.0305	0.0305
G.E.	244 $\times$ 248	0.0350	0.0450
T.I.	490 $\times$ 327	0.0229	0.0229

circuit at a frame rate of 4 MHz (4 million bits of information per second). In the case of a 1024×1024 array, which represents the ultimate goal of the research, the output frame rate would be as high as 26.2 MHz, i.e. even higher than the maximum rate at which data can be extracted from a CCD array, namely 20 MHz.

Despite these drawbacks, an ever-increasing number of applications are being found for the solid state telecamera. Its main advantage is that it eliminates the need for an internal electronic scanning system. This allows a considerable reduction in weight and size to be achieved. A typical CCD telecamera may weigh as little as 340 grams and have an overall size of $50 \times 65 \times 95$ mm. Furthermore, eliminating electronic scanning removes a source of noise and takes with it many of the disadvantages linked to a slow response time.

Other advantages of solid state devices are: robustness, low operating voltage and possibility of low-cost mass

length, except for small particle sizes. The transmission characteristics of the atmosphere at sea level as a function of wavelength are shown in figure 3.

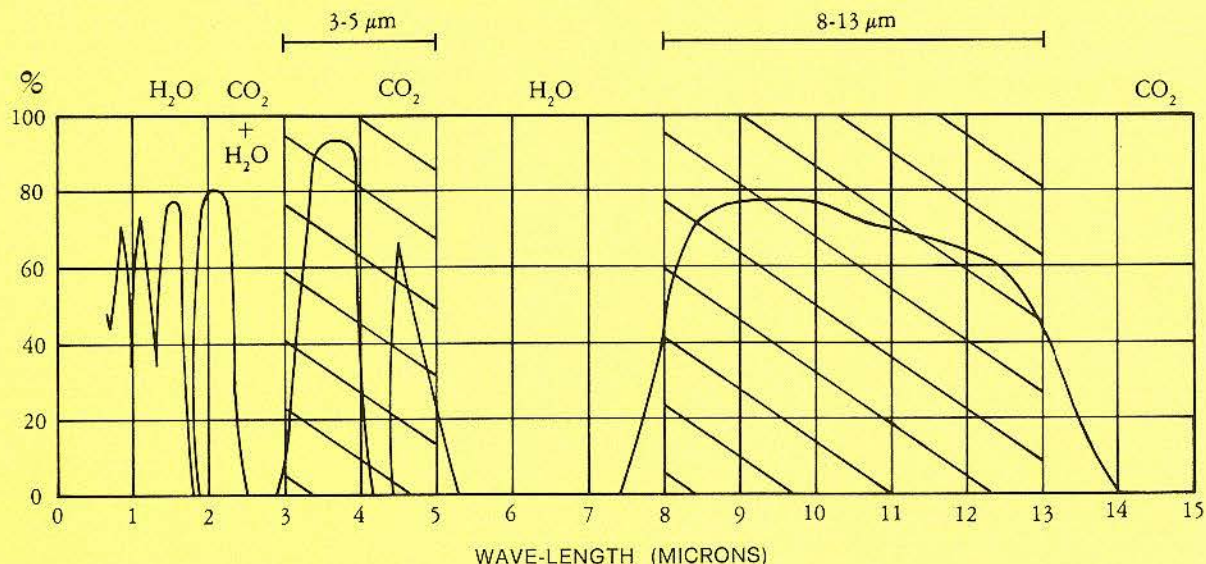
Windows that can be used for the propagation of infrared rays exist in the 3-5 micron and 8-13 micron bands.

Thermal imagers exploit the fact that the greatest emission of infrared rays by objects at ambient temperature (20°C) occurs in the 8-13 micron band. At shorter wavelengths the amount of heat radiation emitted by sources at ambient temperature declines rapidly. Nevertheless, a small variation in temperature corresponds to a comparatively large variation in heat radiation. In the 3-5 micron band a heat-emitting object is thus highly contrasted with the environment and this transmission window is exploited by the sensors used in infrared missile guidance systems.

Even when they had spatial and temperature resolutions suitable for military purposes, the infrared sensors that preceded the modern thermal imagers

Atmospheric transmissivity at sea level
(percent)

Fig. 3



could not operate in real time. In particular, this was true of the infrared line scanner systems (IRLS), which have found large-scale applications in aerial reconnaissance. Even though it is possible to have a real-time display of the images collected by an IRLS, this type of device will not be considered here. An IRLS is capable of scanning a scene only in one dimension and the movement of the aircraft is used to build up an image line by line. Furthermore, although capable of producing high quality images, this system cannot display changes of scene or the relative movements of objects. These characteristics make the IRLS systems unsuitable for carrying out surveillance missions during which an area must be maintained under constant observation. Missions of this kind can instead be carried out by thermal imager devices known as forward looking infrared systems (FLIR).

The first FLIR consisted of a system based on three infrared-sensitive elements and was built by Texas Instruments in the early sixties. The device was tested under operational conditions on board a US airforce Gunship. It was followed by an improved model which used an array of 150 elements with a parallel type of expansion. This was the first of a series of devices used in Indochina on B-57G, AC-47 and AC-130 aircraft.

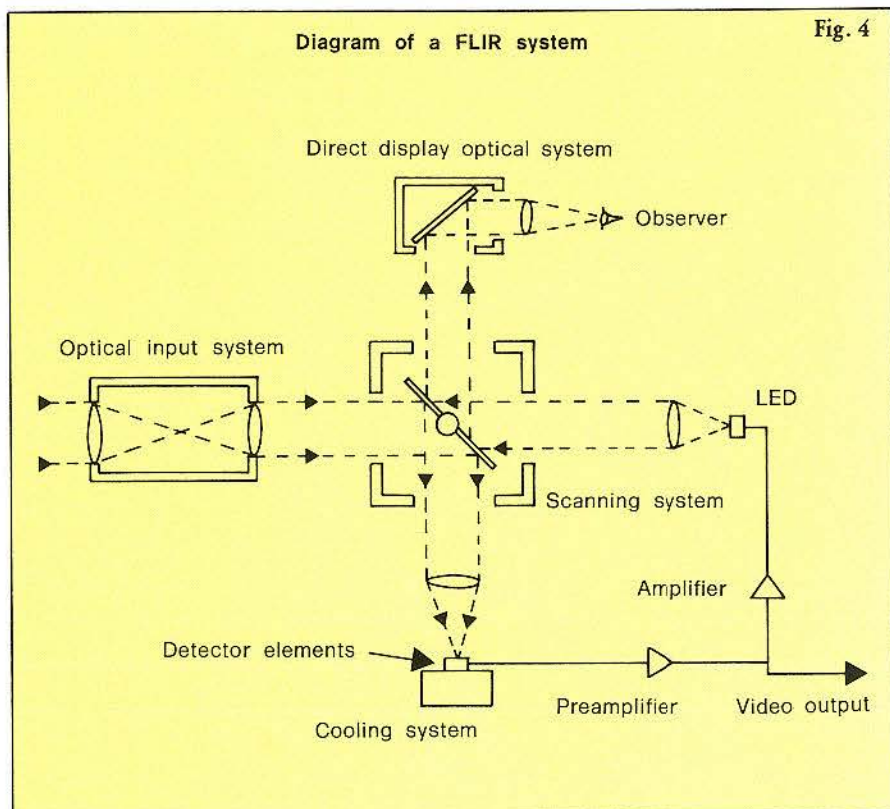
A schematic representation of a typical FLIR system is shown in figure 4. The heart of the system consists of a scanning device which, in the systems operational today, is of the mechanical type. This device has the function of sequentially sampling the radiation conveyed from the optical section, after which the latter is sent to excite a small array of infrared-sensitive detectors. In other words the scanning system has

the task of subdividing the scene in equal portions, to collect the infrared rays emitted by the latter and to send them to the detectors, where they are transformed into electrical signals. In order to reduce the noise caused by the thermal excitation of the electrons, and thus to increase the sensitivity of the device, the array of infrared-sensitive elements is cooled down to about

—200°C. The output signals from the various individual elements are amplified, processed and displayed to the operator. The method normally used consists of exciting an array of LEDs (light emitting diodes). The same scanning system is used to project the light radiations onto a suitable lens system, thus reconstructing the image, bit by bit. Another system consists in sending the

Diagram of a FLIR system

Fig. 4



signals to a cathode ray tube (CRT) where, after being converted, they are displayed in standard TV format.

It is therefore clear that a FLIR system must possess:

- an array of infrared detector elements cooled down to a sufficiently low temperature;
- a lens with as large an aperture as possible;
- a sufficiently fast scanning device;
- an internal pathway for the infrared rays such as to guarantee the least possible energy dispersion.

Weight and size must be kept down during the design phase. These requirements can be satisfied by using different scanning techniques, some of which are already known while others are in the course of development. A different approach involves the use of an array of sensors set up on the focal plane of the system.

SCANNING TECHNIQUES FOR FLIR SYSTEMS

One of the first techniques used has been called Vertical Raster Scanning with Multiplexing. The scanning system basically works in the same way as described above except that the output from the infrared-sensitive elements, instead of being fed into the LED circuits, is combined into a single video channel using the multiplexing process. That is, the signals are drawn off sequentially as the scene scrolls horizontally with an angle of less than the width of the elements. This operation is repeated until the scene has been scanned completely and the image is displayed to the operator on the CRT. The complex optical system required to transfer the image reconstructed by the LEDs to a visualizing system is thus eliminated.

The use of a CRT, which may be located at some distance from the sensor, makes for considerable installation flexibility and allows any symbols desired to be generated electronically.

The elimination of the LEDs means a saving in weight and size and avoids the possible drawback of the loss of a portion of the image as a result of failures in one or more channels.

The DISCOID system (Direct Scan Operating with Integrating Delays) uses

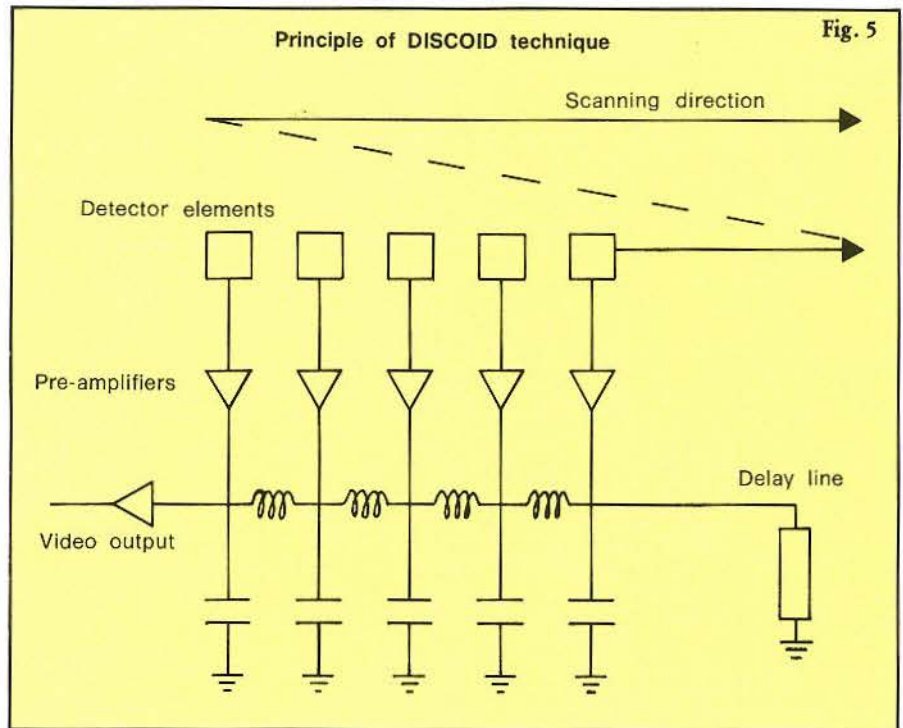


Fig. 5

a small array of detector elements oriented according to the direction of scan. In this way, all the elements observe the same point in the scene at successive moments. Their output signals are amplified and then sent along a delay line by means of which they are integrated in the correct time sequence.

The signal constructed in this way is amplified and sent to a cathode ray tube. This technique can be used to provide a standard television format without any need for multiplexing. Furthermore, since the signals from all the detectors are combined into a single channel, the only degradation that would occur in the case of one of them failing would be a general reduction in the signal-noise ratio, while the on-screen image would remain uniform. A schematic representation of the DISCOID system is given in figure 5.

A third scanning technique is the one known as Signal Processing in the Element (SPRITE). As this term indicates, the signal is processed inside the detector element itself. This technique uses a special element consisting of a thin strip of infrared-sensitive material.

When radiation impinges on a portion of the latter, overload current carriers are developed. After a forcing current is applied, the latter are displaced towards the output terminal. The displacement velocity depends on the material and on the size of the applied current; by varying these parameters it is possible to modify this velocity by linking it to the image-scanning speed. The charge carriers thus all reach the output terminal together. There is thus no need to insert time-delay or OR gate circuits, since

these operations are already being carried out inside the detector element.

A schematic representation of the SPRITE system is shown in figure 6.

NEW TECHNOLOGIES FOR FLIR SYSTEMS

Considerable efforts are currently being made to develop thermal imaging systems in which an array of infrared elements installed on the focal plane of the system replaces the conventional scanner. The introduction of effective techniques for transferring electric charges is fundamental to the development of these devices.

Because of the large number of elements of which an array is composed, the information collected may be input only by means of a multiplexing process, i.e. by using shared terminal connections to which the data are sent sequentially. The solution has been identified in the use of CCD arrays which, combined with arrays of infrared elements, allow the information contents to be read off and then sent to an image display system. The use of CCD technology lays the basis for the construction of arrays which not only allow the radiation to be detected and converted into electric signals, but also the data thus collected to be processed so as to facilitate the operator's task.

Three main types of focal plane arrays have been developed by the research laboratories:

- intrinsic hybrid array: an intrinsic detector material such as mercury cadmium telluride (Hg Cd Te) is both mechanically and electrically combined with a CCD structure;

- extrinsic monolithic array: extrinsic silicon is used as the infrared-sensitive material together with intrinsic silicon for the CCDs, all mounted on the same chip;

- intrinsic monolithic array: the same type of material (usually Hg Cd Te) is used for both the infrared elements and the CCD complexes.

The extrinsic monolithic type of array has the advantage of exploiting a well-known technology, although its use is restricted to very low temperature operation. The technology on which the intrinsic monolithic type of array is based is still being developed. Furthermore, there are a number of drawbacks involved in using only one type of material. Not always does a good sensitivity to infrared rays go hand in hand with a satisfactory behaviour when the material is used in circuit components. The most suitable material for making circuit components is silicon, and this explains the interest shown in hybrid arrays. This type of array exploits state-of-the-art silicon-based circuitry and thus allows the infrared-sensitive part and signal treatment to be optimized separately.

The greatest difficulty is now represented by the need to mechanically and electronically connect two dissimilar materials. This problem is aggravated by the high impedance of the CCDs. It is significant that all three solutions examined involve the use of CCDs. In the case of large arrays the problem thus arises of the frequency at which the signals are input. In view of these considerations infrared sensors are unlikely to become fully operational before the end of the present decade.

Numerous problems remain to be solved and the well-tried electro-mechanical scanning systems will therefore dominate the scene for the next few years. Nevertheless, once full maturity has been reached, the focal plane array type of sensors will be capable of satisfying the most stringent requirements and offer the following advantages:

- weight and size reduction owing to the elimination of the electro-mechanical scanning system;
- enhanced resolution thanks to the use of smaller-sized elements;
- enhanced sensitivity owing to the high number of detector elements and signal integration;
- elimination of background and target emphasis, which can be achieved by distinguishing between fixed and moving objects;
- "on-chip" signal treatment to extract significant information and to reduce operator workload.

PROPOSAL FOR A SYSTEM

In order to carry out battlefield surveillance missions, an electro-optical system must have sufficient resolution to guarantee recognition at a sufficient

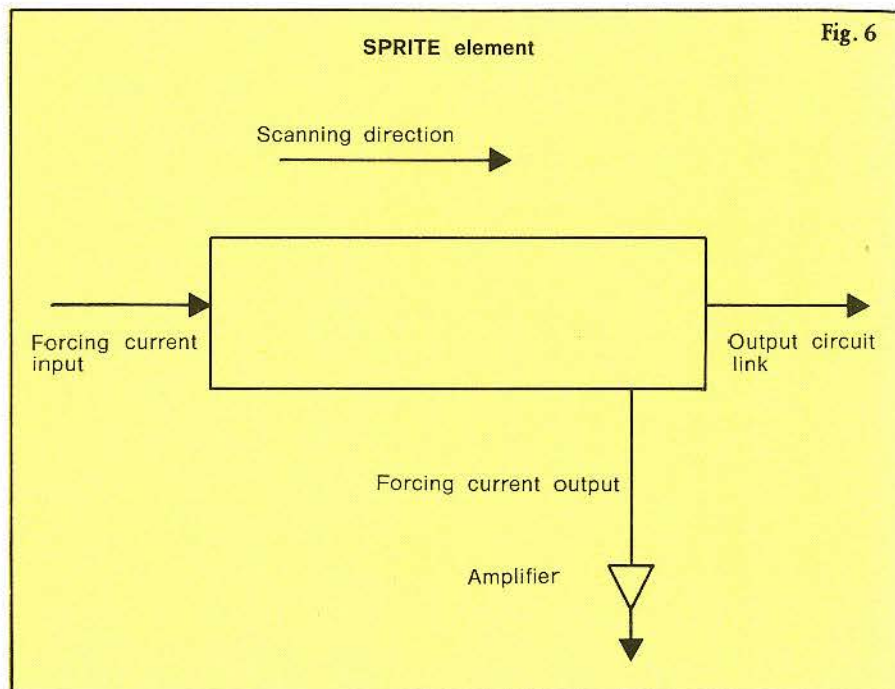


Fig. 6

distance also of small sized objects that blend in with the surrounding environment. Furthermore, the optical section should have a fairly large field of view in order to allow a wide area to be explored and to facilitate the initial spotting of the target. The objective to be attained is a $60^\circ \times 40^\circ$ field of view which, in the case of airborne systems, also guarantees excellent attitude and groundspeed indications, thus avoiding any likelihood of loss of orientation due to too narrow fields of view. On the other hand, a fairly narrow field of view is necessary to allow the target to be examined in detail.

The system should thus be equipped with a zoom device, or at least with a second set of lenses that can be brought into play at the right time to give a field of view of only a few degrees. For the sake of example, it is possible to have fields of view no larger than $2.2^\circ \times 1.5^\circ$.

Once these general concepts have been defined, it is necessary to decide on the type of sensor to use, choosing between conventional and infrared sensors. An LLTV system is certainly not the best choice. Even under excellent weather conditions the scene is likely to be at least partly obscured by smoke and dust, and the interesting targets will probably be camouflaged in some way. An LLTV system cannot see through smoke, nor can it detect well-camouflaged targets. Furthermore, the overload due to strong light sources (tracers, gun flashes, etc.) can damage the camera tube.

Atmospheric factors have less effect on infrared systems since the wavelengths involved are about 10 times greater than those used in TV systems. A FLIR can thus guarantee round-the-clock surveillance even under poor

weather conditions. It can also see through smoke screens and sparse foliage, and can easily detect targets camouflaged by means of nets and branches. Lastly, tracers, gun flashes and other bright luminous sources have absolutely no effect. Thermal imagers are thus preferable, although this does not mean that TV systems no longer have useful applications. Indeed, their relative cheapness makes them suitable for all comparatively low-performance applications.

Another possible application area is represented by multi-band systems using a combination of TV and IR sensors. This type of system represents an optimal solution, since it improves upon the performance of both systems when used separately. The TV and IR images could be combined electronically to exploit the characteristics of the target in the two frequency bands and to make the task of interpretation easier. It would thus be possible to exploit the various different effects of the weather conditions.

Studies carried out in Germany have shown that, under the weather conditions typical of that country, the probability of detection is greater using TV systems during the spring and summer months, while infrared systems are more effective in winter.

So far cost and weight have been obstacles to the development of multi-band systems. The values of these two parameters have been increased by the need to have separate optical and stabilization sections.

In order to be cost-effective, therefore, a multiband system would have to have common optical elements and a single stabilization system. The construction of common optical elements entails the use of materials with good transmissivity

Tab. C

PROBABILITY OF REMAINING ON TARGET			
HEIGHT (m)	PROBABILITY LEVEL		
	VERTICAL	2 KM	5 KM
460	100 %	100 %	99 %
300	100 %	98 %	85 %
60	100 %	45 %	22 %

properties in both the visible and infrared bands. The number of materials that could satisfy these requirements is extremely small. Moreover, nearly all of them would be unsatisfactory in terms of robustness and resistance to environmental agents. Special protective paints can, however, be used to improve this situation, although this does lead to a reduction in transmissivity, particularly in the visible part of the spectrum.

After the optical section has been passed, the visible wavelengths could be separated from the IR wavelengths by using a spectral separator to direct each of the two types of radiation towards the appropriate sensor. This type of operation should not be too difficult to carry out since some spectral separators tested (based on germanium, zinc and selenium) have displayed a capability of allowing more than 90% of radiation in the 8-13 μm band to pass through, and of reflecting more than 95% of visible light.

The problem of sensor stabilization, i.e. of their isolation from the movements of the vehicle, can be solved using two different techniques. In the first of these the optical sensors are mounted on a gyrostable platform. The second uses fixed sensors and a gyrostable mirror that enables the system to be aimed. The first technique allows greater accuracy, but has the drawback of being heavier and bulkier. The use of a gyrostable mirror thus seems to be the most preferable solution to adopt in the case of multispectral systems.

PROPOSAL FOR AN AIRCRAFT

In a real-life scenario, surveillance activity carried out by helicopters operating in the "pop-up" mode would, in all likelihood, be limited to observation from positions on their own side of the FEBA, if possible beyond missile and AA gun range. Their detection capability may be adequate even with these limitations, although their identification capacity would be much reduced. Existing FLIR can detect a target the size of a tank up to a range of 5-8 Km, although they will not allow the recognition (i.e. the identification) of any type of vehicle at a distance of more than 2-3 Km.

The availability of zoom systems or the use of focal plane arrays would allow the operator to identify the target at greater ranges. In this case, however,

it would be necessary to take into account the likelihood of natural or artificial objects blocking the line of sight, thus reducing the system's capability. The probability of having an uninterrupted line of sight in flat country in Europe is shown in table C.

It must also be borne in mind that "pop-up" manoeuvres can reduce ground concealment effects only at the cost of a significant increase in altitude and thus of the aircraft's vulnerability. The use of piloted high-performance aircraft on battlefield surveillance missions would be extremely risky owing to the effectiveness of modern anti-aircraft systems.

Low-level, high-speed operation would reduce vulnerability but inevitably also restrict the field of observation. Furthermore, the high speed would also leave the operator very little time for real-time image analysis. Furthermore, under these conditions, the image would be distorted by the movement, and the operator would quickly become exhausted trying to extract the information.

These drawbacks do not apply to film exposed during flight and analysed on the ground. However, while completely valid, the information obtained in this way would lack the immediacy of real-time systems. Piloted aircraft would thus not appear to be suitable for battlefield surveillance using electro-optical sensors.

This situation could be changed by introducing sensors capable of allowing an aircraft to operate deep on its own side of the FEBA. For the time being, however, the only system which would allow this to be done seems to be synthetic-aperture radar.

The studies and experiments carried out on remotely piloted vehicles (RPVs) have shown that this type of aircraft have excellent survivability in the battle area by virtue of their small size and their small equivalent radar section, to which a typical value of 0.1 m^2 is assigned.

Moreover, it is much easier to accept the loss of such an aircraft than of a piloted one. These characteristics allow RPVs to operate at fairly high altitudes so as to reduce ground concealment effects and to extend the observable area. Another factor to be considered is their great fuel capacity, which gives them an operating time of even more than 3 hours at a time. The main limitation of RPVs is their necessarily small payload.

The introduction of miniaturized solid-state sensors could thus further

enhance the already noteworthy capabilities of the equipment described above.

CONCLUSIONS

Over the next decade, electro-optical systems are bound to play an increasingly important rôle in battlefield surveillance. Present-day micro-wave sensors do not have a high enough resolution to allow the majority of tactical targets to be identified and are also vulnerable to electronic counter-measures.

The need for round-the-clock operation has led to the development of infrared LLTV systems. Despite the increasing use being made of CCD telecameras, TV systems will probably be replaced by thermal imagers. The latter are capable of operating in total darkness and can see through smoke, haze and camouflage systems. The introduction of sensors constructed using arrays of infrared-sensitive elements mounted on the system's focal plane is likely to further enhance their performance.

Even if surveillance missions can be accomplished in an optimal fashion using infrared devices operating in the 8-13 μm band, systems using combined TV and IR sensors have also proved to be valid. Since all targets have well-defined characteristics in both the visible and the IR portion of the spectrum which can be used for detecting them, an integrated system is more effective than a TV or IR system on its own.

The use of a stabilization system and common optical elements would allow such a system to be reduced to a weight and size suitable for installation in an aircraft. In view of the performance required, RPVs would seem to be the best type of aircraft on which to mount electro-optical systems for the purposes of battlefield surveillance.

Basilio Di Martino

AIRBORNE ELECTRO- OPTICAL SYSTEMS



In spite of the favorable comments expressed by foreign representatives, according to whom the Italian language has a rich and melodious vocabulary, we do quite often encounter difficulties when called upon to translate English terms for which there is no similarly effective word in Italian.

Certain English words and expressions, the real meaning of which we do perceive, have no satisfactory counterpart in our language, and thus we must often use long and complicated sentences to translate terms which in English are quite simple and clear in meaning.

How to translate, in the same terse manner, terms such as teen-ager, sponsor, early-times or fast-food? The difficulty is evident to the point that, in the cases mentioned, people have resorted to using the English terms, which are by now universally accepted.

In our specific professional field, this problem is particularly apparent whenever we are called upon to find the Italian equivalents of *intelligence* and *information*. We know very well, because the concept is quite clear to each of us, that the "Intelligence Division" and the "Information Division" of a NATO Headquarters are two totally different Agencies because their respec-

PUBLIC INFORMATION: Unknown quantity?



tive areas of interest are totally different. But the inflexibility of our language demands that we use one term for both concepts, albeit with a subtle distinction, i.e. using the singular in one case and the plural in the other one.

We thus call "Ufficio Informazioni" the Intelligence Division, and "Ufficio Informazione" the Information Division. A subtle distinction, which however does not convey the true and deep difference between the two terms.



Leaving aside any consideration of etymology or semantics, which might suggest interesting subjects for meditation, there is a basic distinction in that those who operate in the field of "Intelligence" conduct a mental activity (from Lat.: "Intelligentia") designed to construct an overall situation out of items of information that have been collected in a detailed and "intelligent" manner and may or may not be coordinated but can be compared to the pieces of a mosaic or, in more modern terms, a puzzle.

Those who work with "Information", however (Lat. "Informatio") are chiefly interested in disseminating items of information to the large public. In fact, the latter activity has introduced the term "Public" and is more completely and properly called "Public Information".

It is this very Branch that we propose to address in the following article, in which we shall try to highlight NATO policies as opposed to National ones, and emphasize those points which identify implementing procedures, means and above all functions.

Even though NATO's official languages are English and French, it is from English that military terminology has been mostly derived ever since the establishment of the Alliance. An example is the great number of short titles of clearly English, or even US, origin, that are commonly used in written and verbal communications among the representatives of the 16 Allied Countries. Indeed, terms

taken from the US military vocabulary have become common usage. Public Information, however, is somehow an exception.

The Defence Information School of Fort Harrison, Indiana, defines its quite imposing subject matter as "Public Affairs", and the officers dealing with it at the various levels as PAOs (Public Affairs Officers).

Within NATO, however, the commonly used term is Public Information, and the people who deal with it at the various levels are called Public Information Officers, or PIOs. At the National level, the term "Ufficio Informazione Pubblica" is generally replaced by the more general term of "Ufficio Stampa", or Press Bureau, which certainly does not properly highlight the many activities conducted therein.

To remain within NATO, and more specifically within Allied Command in Europe (ACE), this matter has been addressed in various Directives of the 95 Series, AD 95-1 providing a clear definition of the term: "Public Information is the command function of communicating information about NATO in general, and about ACE in particular, to the public. The function includes, but is not limited to, peacetime and wartime policy planning, research and evaluation, media relations, briefing of visitors groups, and the preparation of information material. The term specifically excludes activity in the domain of psychological operations".

A self-explanatory comprehensive statement in which two points stand out:

- Public Information is a command function, and
- the term specifically excludes activity in the domain of psychological operations.

ACE Directive 95-1 also defines exactly the rôle of the Chief, Public Information (CPI). He is "responsible for planning and implementing a PI programme for his Commander. The CPI is the spokesman for his Commander and is his command's official outlet for PI".

PUBLIC INFORMATION IN PEACETIME

When addressing the subject of Public Information within NATO, it is necessary to establish a command level as a reference point, and to review in detail those activities that are conducted at that level in peacetime.

Headquarters Allied Land Forces Southern Europe (LANDSOUTH) is an excellent example in this respect, because:

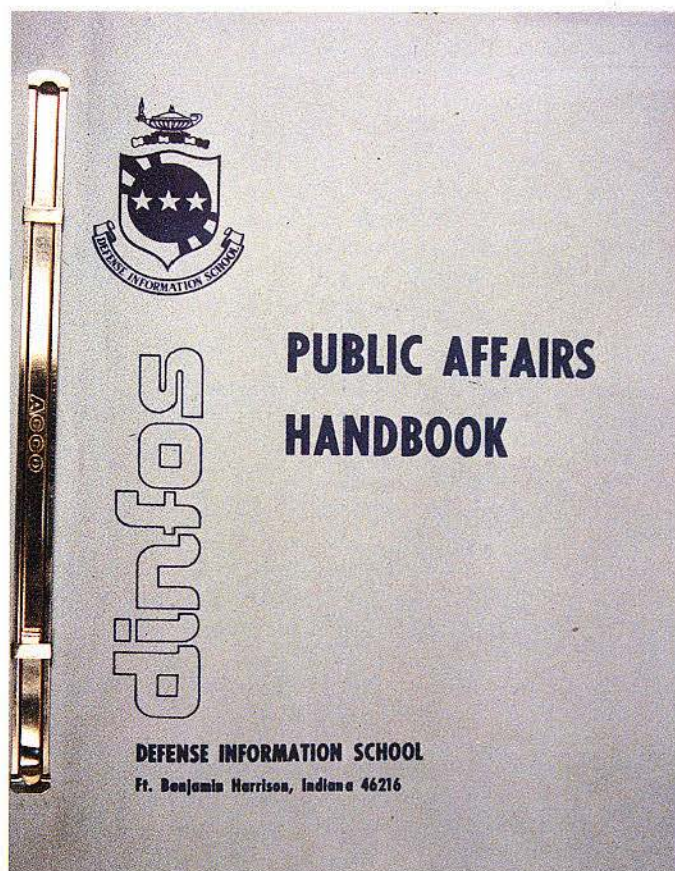
- LANDSOUTH is a NATO Command where the national component is quite dominant (approx. 95%) and includes the highest ranking command positions, i.e. a four star Commander and a two star Chief of Staff.
- because most of the field army (the three Corps, the NE Military Region and the Army ADA Command) is under COMLANDSOUTH's operational control, the handling of Public Information matters necessarily involves contacts with the parallel national organizations, i.e. the Italian "Uffici Stampa".
- as a "Land" Headquarters, LANDSOUTH is a natural link between the NATO Military organization in the Southern European Region and the National Authorities, and especially with the Public Information Agencies at the Defense General Staff and the Army General Staff.

The general responsibilities of a PI organization (whether Division or Branch) within NATO can be summarized into two essential points as follows (AD 95-1):

- to keep the public informed about ACE and issues/developments relevant to the Supreme Allied Commander Europe's (SACEUR's) mission.
- to keep commanders aware of media and public opinions trends on defence issues.

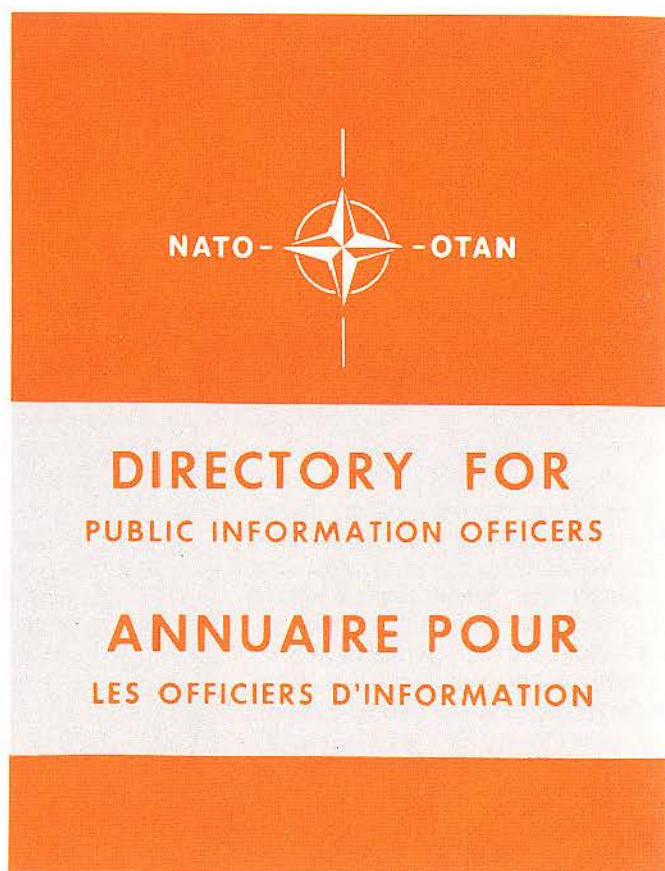
To meet the above requirements, the following concepts must be constantly kept in mind, and in fact constitute a definite policy:

- the public must be kept informed to the greatest possible ex-



Public Affairs Handbook.

In the U.S., public information is a quite imposing matter which is studied at the Defence Information School of Fort Harrison, Indiana.



The Officers dealing with the function of Public Information at the various command levels of ACE (Allied Command Europe) are called "Public Information Officers".

tent, except for the restrictions demanded by security requirements.

- Public Information is an essential element of deterrence as well as a command function.
- the Pio, as a specialist, must be granted direct and immediate access to the Commander, to whom he is to provide advice on public information matters.
- strict coordination is essential between Public Information and the other operational Agencies of the HQ.

Any PI activity undertaken within ACE must be in line with NATO's political attitudes and the prerogatives of NATO's member Countries.

The range of activities performed on a routine basis within the LANDSOUTH PI Branch includes:

- Reviewing some ten dailies and 6-7 periodicals.
- Maintaining biographies and official photos of NATO Authorities.
- Pictorial services for special events and those associated with the preparation of personnel identification documents.
- Reviewing military magazines, and maintaining a retrieval system.
- Preparing and disseminating NATO information material.
- Organizing press meetings, interviews and press services.

- Issuing press communiques on special events such as visits, celebrations, changes of command and anniversaries.

- Preparing a bimonthly press review.

- Maintaining operational PI records (OPORDERS and other planning documents).

Additionally, the LANDSOUTH PI Branch promotes collateral activities such as:

- Editing a local bimonthly periodical, NATO a Verona.
- Producing and issuing commemorative postcards.
- Printing and issuing promotional literature, calendars and miscellaneous publications.

- Occasionally, organizing Art Exhibitions.

In the face of the above tasks, the current strength of the Branch is quite modest indeed, as it consists only of:

- one Officer, the PI Officer;
- one NCO photographer.

Thus, administrative tasks such as record-keeping, filing and typing, must necessarily be performed by the clerical personnel of the PI Branch's parent Division, i.e. the office of the Secretary for Staff. However, the existence of a peacetime establishment, albeit limited, involves undeniable advantages, such as:

- The exact organizational connotation of the Branch staff, and thus a clear definition of responsibilities (which, inter alia, allows the proper maintenance of personnel records).
- The irrenounceable availability in peacetime of an, albeit skeleton, organization on which to build the larger organization (Division) scheduled for an emergency. Unfortunately, the above configuration does not apply at assigned-headquarters level (i.e. at Corps level), where the establishment does not envisage any Press Office and where, consequently, neither manning nor equipment and supply levels are established in real terms, nor are the associated tasks set forth officially.

This, as we shall see further on, is no minor problem whenever the subject of "Public Information in an emergency" is to be addressed, a theme that is often discussed and is highly considered within NATO.

The detailed tasks and activities to be performed during recurring NATO Exercises such as WINTEX, ABLE ARCHER, DENSE CROP, DISPLAY DETERMINATION etc., will be addressed separately, since these Exercises involve special situations that do not apply in peacetime, but are more similar to those anticipated for wartime.

PUBLIC INFORMATION IN AN EMERGENCY

This matter is dealt with in depth by ACE Directive 95-3, which considers not only hostilities, but also periods of crisis and of tension, i.e. the more or less extended period between peacetime and wartime.

While AD 95-3 addresses this matter in great detail, for reasons of convenience we shall limit our review to aspects of primary interest.

In an emergency, PI tasks and functions remain essentially unchanged except that a greater emphasis must be placed on security, and procedures must be standardized.

In wartime, greater and more detailed efforts will be required to gain public opinion support, a decisive factor for deterrence. A well informed public whose attitudes are favorable to NATO will facilitate the conduct of military operations.

Obviously, the capabilities of PI Agencies will be increased in terms of both numbers and quality and scope.

Appropriate interallied organizations known as "Allied Press and Information Centers" (APICs) will be established in the Combat Zone as focal points for media representatives detached there as war correspondents.

The function and standard composition of an APIC are described in detail by AD 95-3, which also includes at which level of command those APICs should be established.

APICs are field organizations, equipped with transportation, communications and logistics equipment, which are capable of providing support, advice and information to media-reps, including foreign representatives, to assist them in the performance of their mission.

APICs are, in any case, multinational organization which should include Host Nation PI representative as well as those from NATO. It is clearly stated that NATO and National Officers are to alternate in the rôle of APIC Chiefs and Deputy Chiefs.

Once all augmentees envisaged by the TO wartime establishment have arrived, sufficient personnel will be available to set up all planned APICs in the Combat Zone.

This, however, is not true for LANDSOUTH'S Host Nation Subordinates, i.e. the Corps. Because of the lack of an established peacetime and wartime PI programs, planners must insert a number of "question marks" regarding the standard structure of the APICs. This highlights the urgent requirement for the peacetime organization of Corps-level Press Bureaus to be defined – even if on a skeleton basis – to serve as basis for developing the emergency PI organization requirements to include personnel, equipment and vehicles.

This evident deficiency currently causes appreciable problems in terms of operational planning, since Annex "P", Public Information, to LANDSOUTH OPLAN is not matched (nor could it be matched, given the existing "organization void") by a correspondent document at Corps level.

As an example of the appreciable difficulties being encountered when addressing these problems, consider the dilemma involved in the appointment of the APIC Chief. Who should be appointed to this position? A "reserve" Officer who will report to Hq. LANDSOUTH when the time comes – probably with little or no experience, or the Press Officer of the Corps, who is physically there, and is well trained in peacetime, but cannot be officially considered since his position does not exist in the official organization.

This is not a new problem, but it requires prompt solution since inclusion of the Press Officer in the official establishment would not only constitute a deserved recognition for the people concerned (who currently perform PI activities almost ... on the sly), but would also provide the basis for the required emergency build-up.

The above action would also fill a gap between the NATO and the National organizations,

a gap which, for the previously stated reasons, is most acutely felt at LANDSOUTH.

PUBLIC INFORMATION DURING EXERCISES

From a PI point of view, recurring NATO Exercises are of two types, as follows:

- Passive policy Exercises;
- Active policy Exercises.

To the passive policy category belong all those exercises that are conducted essentially on a CP basis, with minimal or no live participation. These Exercises, which are identified by generally recurring nicknames, are conducted in accordance with an established cycle and are designed to test and improve operational plans. There are no press releases, and only general information may be released to the mediareps on the conduct of the Exercise in accordance with SACEUR's guidance.

In the above Exercises Public Information plays a totally simulated rôle, i.e. hypothetical incidents arising from the attitude of the media, and thus of the public, are developed by successive steps in accordance with the progress of military operations and with the basic political scenario within which operations take place.

Imagination plays a major rôle in this process, albeit not to the extent of ignoring the real status of the operations involved.

The exchange of information within the higher NATO Headquarters (SHAPE and AFSOUTH) follows standard procedures and is played by means of periodical messages P(ISITREPs) designed to artificially create successive situations.

In this Exercises, HQ. LANDSOUTH operates in conjunction with FIVEATAF, and the PI Cell is set up at the LANDSOUTH/FIVEATAF Operational Hq.

The PI Cells of assigned HQs, however, are not exercised, and message flow stops at Theater Command level: a pity indeed, because these Exercises would provide an excellent opportunity for testing the opera-

tion of APICs, even though not on a live basis.

Exercises of this type are valuable tools for testing the effectiveness of the PI chain of command and for exercising the essential coordination between the PI Branch and the other operational Cells of the HQ, including the Distaff.

During active policy Exercises, however, the presence of mediareps is not only accepted, but is invited. During Exercises of this type, the Units deployed in the field play a major rôle and their training activities are shown to the mediareps for the latter to write reports about.

It's during activities of this type that international cooperation among the NATO member Countries is highlighted. The presence of Allied forces (external reinforcements) operating in the national territory provides a demonstration of the solidarity and unity of purpose of the NATO Nations.

DISPLAY DETERMINATION is the best known of these Exercises. It is conducted in North-

ern Italy with participation of US and PO forces along side Italian National Units.

The very name "Display Determination" indicates that the activities involved must be widely publicized and indeed participation by highly qualified media representatives has always been large.

Similar policies are applicable in the case of Exercises involving the participation of AMF(L), again in view of the international character of this training. The wartime PI organization is tested during the above Exercises by establishing one APIC in the vicinity of the areas where significant demonstrations are conducted. The APIC is obviously set up with peacetime personnel and facilities, augmented as required.

The Press Officers of NE Military Region, the three Corps, Fiveataf, and those of incoming

Some of the officials interviewed during the Display Determination's press conference.



Allied Units participate in the APIC, thus providing an opportunity for testing the effectiveness and capacity of the PI organization to ensure support, advice and hospitality to the numerous mediareps accredited to attend significant phases of the Exercise.

The media representatives "accrediting system" is also tested in accordance with the provisions of ACE Directive 95-2.

Accreditation is "the recognition which makes a Mediarep eligible for available ACE facilities and assistance".

In periods of tension and hostilities, this prerogative is reserved to SACEUR and the Major Subordinate Commanders (i.e.: CINCSOUTH), but AD 95-2 states that during Exercises involving the establishment of an APIC, the latter will promote a system for accrediting mediareps.

This policy was implemented during DISPLAY DETERMINATION by preparing appropriate "cards" which will remain valid also during normal peacetime activities.

CONCLUSIONS

Defining Public Information as "unknown" in the heading of this article was probably excessively pessimistic. A pessimism that may be somewhat attenuated by the presence of a question mark.

In fact, when I look at the entire matter with the eyes of a NATO Officer, I realize that to define it as "unknown" is going too far, since one cannot honestly say that Public Information is a totally unknown activity. Far from this.

PI is held in a very high consideration at all NATO Commands, which is evidenced by the wealth of personnel and equipment it commands, especially at SHAPE and at AFSOUTH. A visit to the large PI Offices of those HQs will give an exact idea of what this activity represents wherever it is held in high appreciation.

The adjective used in the heading may acquire a more real

meaning if the matter is considered with the eyes of an Italian Army Officer, because the latter will certainly realize the gap that exists between the NATO PI organization and its Italian national counterpart.

This should not surprise anyone, because there are other activities that are conducted according to different standards at NATO and at National level, albeit without engendering too many difficulties.

Where PI is concerned, however, the deficiencies are perhaps more evident, and sometimes evident to the point that reducing, if not filling, the gaps becomes a necessity. By this paper which, far from being exhaustive, is simply intended to highlight the main points of NATO policies, I have wanted, above all, to call the attention of those professionals who, at the national level, are interested in, or even have merely the curiosity of learning how things are done within the Alliance.

Some reporters being informed by the Public Information Officer of LAND-SOUTH before the last exercises of Display Determination 84.

Should then, a comparison with what is being done at the National level, highlight the existence of discrepancies, so much the better, since this could stir up some activity and make people conscious of the vast problems involved.

NATO Directives are clear and exhaustive because they provide accurate and unequivocal indications. It is hoped that this summary of their main points may promote an interesting dialogue which could produce undoubted advantages towards the best performance of a task which requires professional efficiency, dedication, enthusiasm and faith.

Marcello Colaprisco



tilos

tangram integrated logistic system

In the modern military field the logistic functions must be really mobile, not only movable ones.

These functions must be operative immediately after arriving in site by the use of their own means only. The changing of position must be equally easy and quick. The towing vehicle must assure all the auxiliary functions: from the armoured personnel transportation to the wounded people gathering, from the supplying of water, fuel, compressed air to power and drive.

TILOS provides an answer to these needs of mobility, autonomy and operative flexibility.

TILOS is formed by two vehicles: the towed unit, housing the main logistic function, and the towing vehicle, containing the auxiliary functions, besides the main towing service.

TILOS may be thus employed for instance, but not only, as:

- ☐ communications/command/control post
- ☐ logistics for electronics and missile systems
- ☐ surveillance
- ☐ field hospital
- ☐ NBC center
- ☐ mobile air base
- ☐ mobile hydrofoils base
- ☐ mobile system for police control
- ☐ mobile workshop.

TILOS is the real answer to the needs of logistics in tactical area.



TANGRAM

Via Corsica, 19 - 16129 Genoa/Italy

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THE ROYAL ITALIAN ARMY

1919 - 1933

The victorious conclusion of the First World War leaves the Army to face new important problems of difficult solution. Above all, there is the need to demobilize the enormous war apparatus and facilitate, where possible without traumatic results, the reentry of millions of men into civil life and the conversion of the prosperous war industries into peacetime activities.

The complexity of the political events in the first postwar years (suffice it to recall that in the first three years alone there were five different governments without the achievement of a balanced basis for ruling the country) certainly does not facilitate the work of the military world which is, in addition, not always in agreement on the solutions to be adopted. Almost four million men under arms are, however, too heavy a burden for the national finances requiring drastic reductions in numbers and slowdowns sometimes almost to a standstill, also in the supplies and modernization of arms. Thus, demobilization is carried out despite the realization that definite areas of discontent are forming in the country. In particular, it appears difficult to solve the problem represented by the regular officers who are too numerous for the needs of a peacetime Army. The steps taken are not always entirely suitable and provoke spreading dissatisfaction and gradually increasing outspoken reactions.

If to the main problems of demobilization are added the uneasiness resulting from the demonstrations – sometimes even violent – of patriotic fervour, especially the patriotism in Fiume, which

found the military divided over the issue, the difficult definition of a future policy for the Armed Forces and the aggravating situation of the political ideologies which were contrasting, it is possible to have some idea of the delicate moment in which the military institution found itself.

ITALIAN

MILITARY

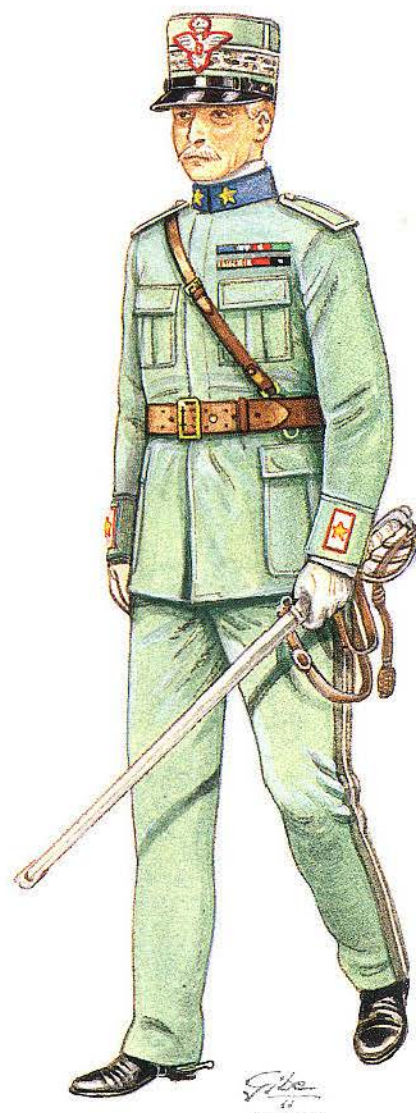
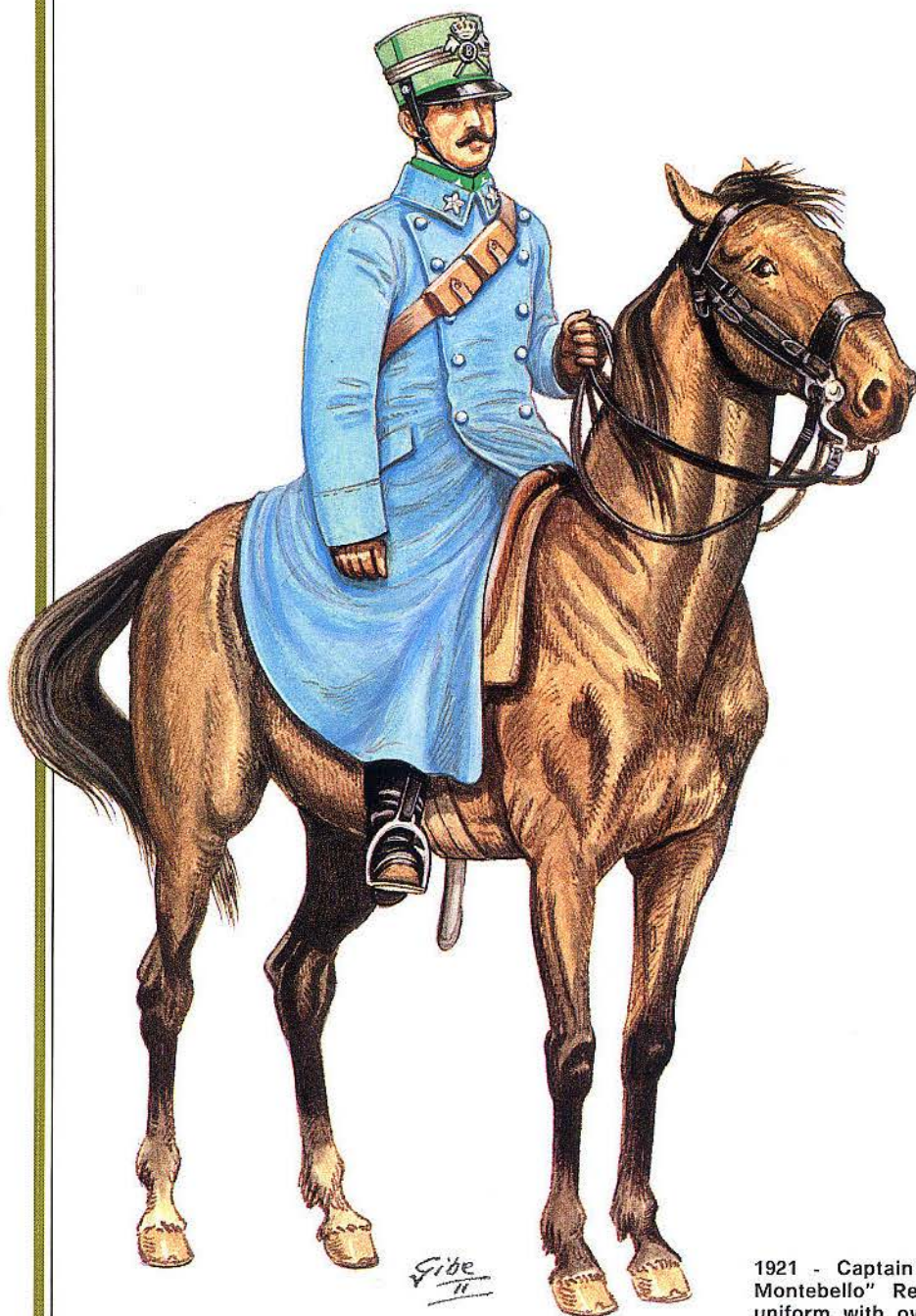
UNIFORMS

The change in political regime which took place in 1924 finally forces the need for a different psychological order for the military world. Whole-hearted loyalty to the Crown now has to be reconciled with the new political situation and once the republican tendencies are abandoned, an agreement is achieved with the monarchy. The new deal is based on openly nationalistic and expansionistic principles and to a certain degree gives prominence to the Armed Forces which are considered an indispensable means to reach the goals set. However, the traditional inadequacy of financial allocations is once again the case with the result that there is an almost total halt to the process of modernizing equipment and means. In fact, the innovations in the field of arms are limited to individual light weapons (despite this, the 1891 model rifle is still confirmed and in use) and to the inclusion in the artillery armament of items captured from the enemy. It is true that the first tank units are formed but these, too, are provided with tanks which had seen service during the war. Training is also restricted in quality on account of lack of funds, for the troops called to conscription were often reduced in number and not all those available were called up. Nevertheless, the Army undertakes gradual changes, not all of them positive, and new systems which slowly develop during the '30s.

It can be stated, however, that little or nothing is effected to modernize the apparatus of 1918 and it is found preferable to proceed with merely formal alterations.

In November 1919 the organization of the Army includes 5 commands nominated Armies, 15 Army Corps, 30 infantry divisions, 2 cavalry divisions, 1 grenadier brigade, 53 infantry brigades, 6 "bersaglieri" brigades, 4 "alpini" brigades, 6 cavalry brigades, 15 artillery and 7 carabinieri brigades, with an total force of 210,000 men. Military service

is for 12 months. Already in April 1920 in order to effect savings the overall force is reduced to 175,000 men with a conscription period of only eight months. However, in March 1926 there is a change in tendency in that while there is a large reduction in commands and units, there is an increase in the overall force to 250,000 men.



1921 - Major-General, in off duty uniform.

The blue velvet collar with the gilt stars, the shoulder-straps with silver piping and the stripes on the trousers are distinguishing marks of the general officers. This particular uniform which is worn off duty is kept only for a brief period.

1921 - Captain of the "Lancieri di Montebello" Regiment, in service uniform with overcoat.

The overcoat in very bright blue and the cloak of the same colour are worn by officers of mounted units only.

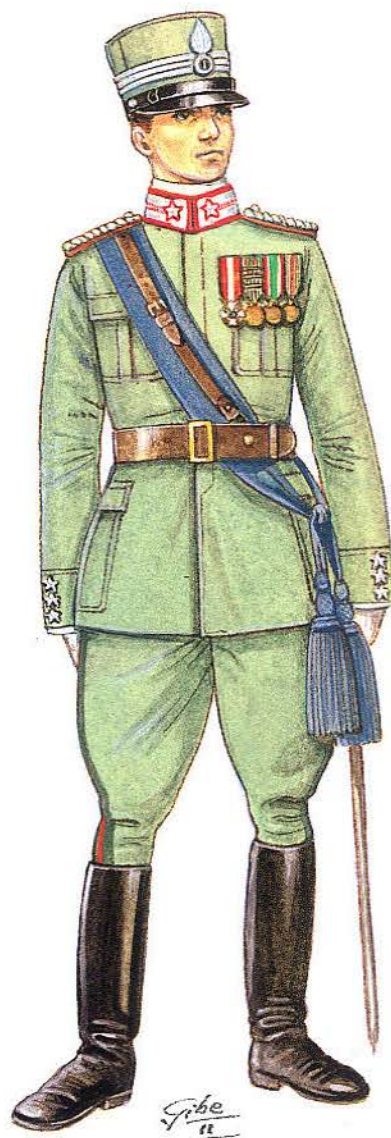
Various organizational measures are taken and, funds permitting, efforts made to increase the degree of mechanization and the number of vehicles.

The wartime uniform continues to remain in use in the first postwar years. Thus, apart from some changes limited



1923 - Sergeant of the 151st "Sassari" Infantry Regiment, in full uniform.

The new pockets begin to be seen on the tunics of NCOs and soldiers, while the buttons are still hidden from view.

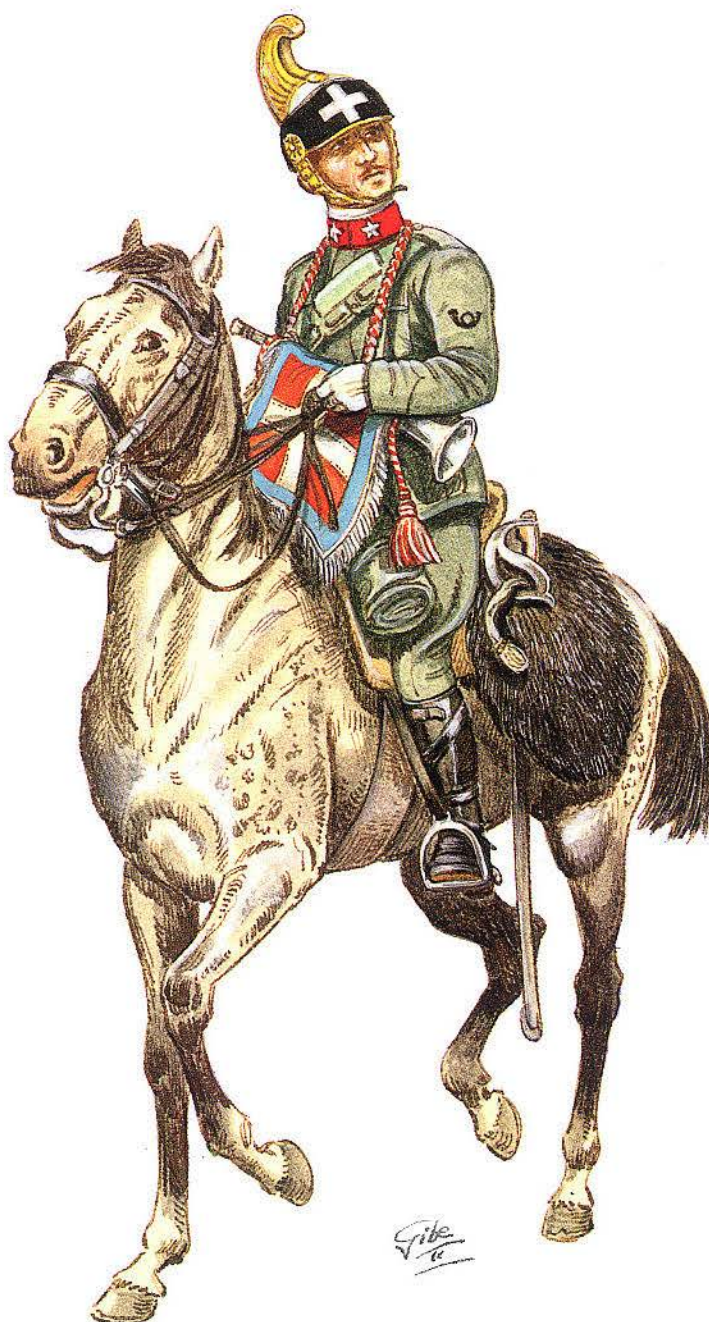


1923 - Grenadiers' Captain, in full uniform.

The trouser stripes have been adopted recently: each stripe of grey-green silk ribbon is divided by a central stripe of the characteristic colour of the corps or service.

1924 - Warrant Officer of the Engineers, in full uniform.

The epaulettes worn by the three ranks of Warrant Officers in full uniform are typical: in black cloth, with piping of the characteristic colour, they bear the embroidered badge of the corps or service and rank insignia.



1925 - Bugler of the "Piemonte Reale" Regiment, in full uniform.

After the World War the first four regiments, the Dragoons, resume wearing the characteristic helmet of Risorgimento pattern.

to details, officers, NCOs and soldiers are dressed in the uniforms worn in the trenches, rather simply cut and in rough cloth. All ornaments are totally ignored even in full uniform.

However, despite the unfavourable attitude of some political parties, a winning army cannot exist only with a plain field uniform in view of the pressing need to bring military clothing on to the same level as that of civilians – better and smarter.

Thus, in 1923 all uniforms are modified and in particular for officers the quality of the material is improved and the piping and the ornaments increased especially for ceremonial and for off-duty dresses. In this way we see the return of coloured collars, shoulder-straps with piping in the colour of the regiment, corps or special unit; capes and overcoats are much smarter and footwear better-looking and more comfortable.



1924 - Alpine soldier, in service uniform.

The Alpines' boots which are fitted with special nails, are left in hide colour, since they are only greased and not blackened.



1926 - Lieutenant, Medical Corps, in full uniform.

Epaulettes with a fringe are in use, replacing the shoulder-straps of plaited braid worn in preceding years. The trouser stripes are in black cloth with central piping of the characteristic colour. It should be noted that officers of non-Combatant corps do not wear the cross-belt recently adopted.

1933 - Artillery Captain and Warrant Officer, in service uniform and duty uniform respectively; Artillery Corporal and privates in duty uniform with topcoat.

The buttons are now visible in accordance with a recent order: buttons are yellow or white metal according to the corps, service or special unit.



Badges are no longer embroidered in grey-green and black thread but once again glitter in silver and gold.

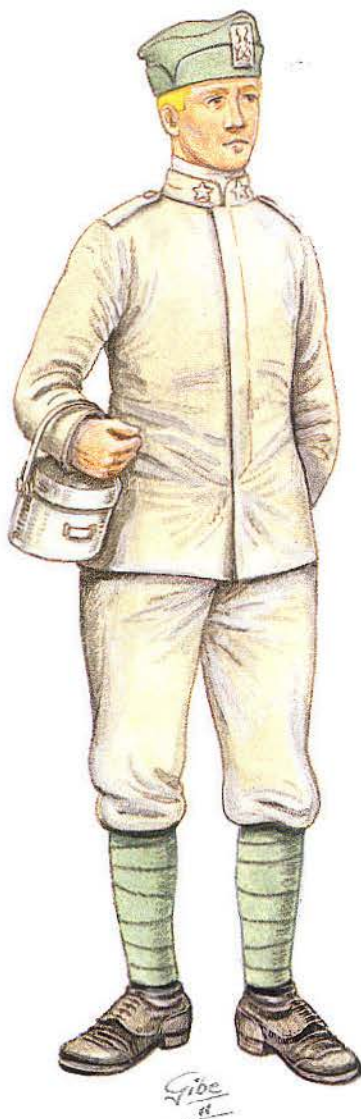
In particular, the following points deserve special mention:

- generals reinstate the traditional silver "greca" (silver zigzag pattern embroidery) and are distinguished now by a blue velvet collar with gilt stars;
- special grey-green epaulettes are worn with the full uniform. These epaulettes, with piping in the characteristic colour, bear a design of Savoy knots worked in silver or gold metal thread, according to the unit;



1931 - Lieutenant-Colonel of Infantry, in service uniform with "spencer".

The spencer, an elegant black jacket edged with astrakhan fur which dates back to the Risorgimento, is reinstated for officers, but is not compulsory.



1932 - Supply Corps soldier, in fatigue dress.

The wearing of grey-green forage-cap and grey coarse cloth overalls is a recent institution and represents an improvement, much more practical, particularly in the summer.

• all ranks have on the tunic four outside pockets with a rectangular flap. The pockets have a double vertical pleat in the centre in addition to the flap;

• further, all ranks when on duty, in full uniform or in duty dress are to wear a helmet bearing a distinctive metal badge in either yellow or white metal. The only exceptions to this regulation are the special units since these wear their characteristic headgear which is confirmed or reallocated ("bersaglieri" hat, artillery kepi, alpine hat, etc.);

• officers are once again to carry the traditional sword and there are no changes in its pattern nor of the sword-knot.

The year 1926 sees the end of the system of badges which was introduced in 1915 and the reinstatement of the prewar badges worn on the shoulder-straps.

In full uniform, officers now wear the traditional type of metal epaulettes with a fringe, in gold or in silver according to the regiment or corps to which they belong, in place of the epaulettes with the Savoy knots; combatant regiments or corps wear a cross-belt with a richly ornate cartridge-box.

Troops are also to wear, in full uniform, a metal ornament on the shoulder strap.

In 1927, in addition to various measures dealing with details, a regulation is set out for the uniform of the Royal Carabinieri. Only in July of 1931 a detailed regulation on the uniforms for officers of all the Army is published and this is without doubt one of the most exhaustive publications ever issued by the General Staff. In fact, while all the previous still valid orders issued as notes or circulars are finally collated and assembled, numerous completely new changes are introduced.

It should be noted that the tunic worn by all ranks maintains the button-hole hidden from view by a fly, while shoulder-straps are fixed by metal buttons, the buttons often being burnished.

The trousers worn by officers in this period have double black cloth stripes, divided by piping in the characteristic colour, which replace the dark grey silk braid with central piping in the colour of the regiment or corps.

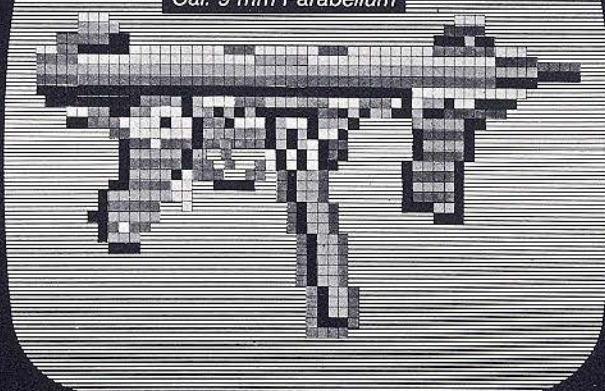
The gradual evolution of the uniforms is slow but continuous: towards the end of the period under consideration it is decided to show the buttons of the tunic, maintaining the gold and silver metal. Five large buttons are set on the front and a total of 6 small buttons on the shoulder-straps and the pockets.

The overall appearance is now much smarter than that of eight years before and this improvement is further enhanced by the decision, in June 1924, to adopt a lightweight twill cloth of lighter shade for officers and NCOs in place of the heavy cloth for the troops.

Valerio Gibellini

Beretta PM 12 S

Cal. 9 mm Parabellum



THE EXPERIENCE IS IN MEMORY

PM 12S, the maximum expression of technology and tradition.

A weapon versatile, reliable and, as every product
born in Beretta, simple in design.



Beretta
defence division



84 BB

Cal. 9 mm short



92 F

Cal. 9 mm Parabellum



93 R

Cal. 9 mm Parabellum.
Single shot or three
round bursts



"TILOS" INTEGRATED LOGISTIC SYSTEM

Genova's TANGRAM, which has been operating in logistics for 60 years, has presented an interesting system, TILOS (Tangram Integrated Logistic System), designed and developed to provide a new solution to the logistic problems of the battle area.

TILOS is a mobile armour-plated modular system, consisting of an "intelligent" towing vehicle (VTL) and a towed unit (TU) – equipped with independent power generators – which can contain, for example, a C3 centre, a hospital, a field kitchen, or personnel. The VTL and TU are an "integrated" system which permits to have mobile and independent logistic components, with cross-country capabilities and a good on-road speed, easily connectable with other similar units, which can be operational within a few minutes after their arrival in the employment area.

The VTL has the capacity of a standard shelter, and can transport up to 16 persons or contain any type of electronic equipment.

The TU can be completely equipped to meet any requirement, and delivered in the size required by the purchaser. The most significant specifications of the system are the following:



VTL TOWING VEHICLE

- Body structure in aluminum alloy.
- 4 wheel drive.
- Adequate power.
- Spacious one-room interior.
- Size:
 - length: 6.14 m;
 - width: 2.45 m;
 - height: 2.41 m.

TU TOWED UNIT

- Body in aluminum alloy.
- Length, width and height as required.
- Hydraulic suspensions, individually adjustable; leveling system.
- Independent power generator.
- Large back port.

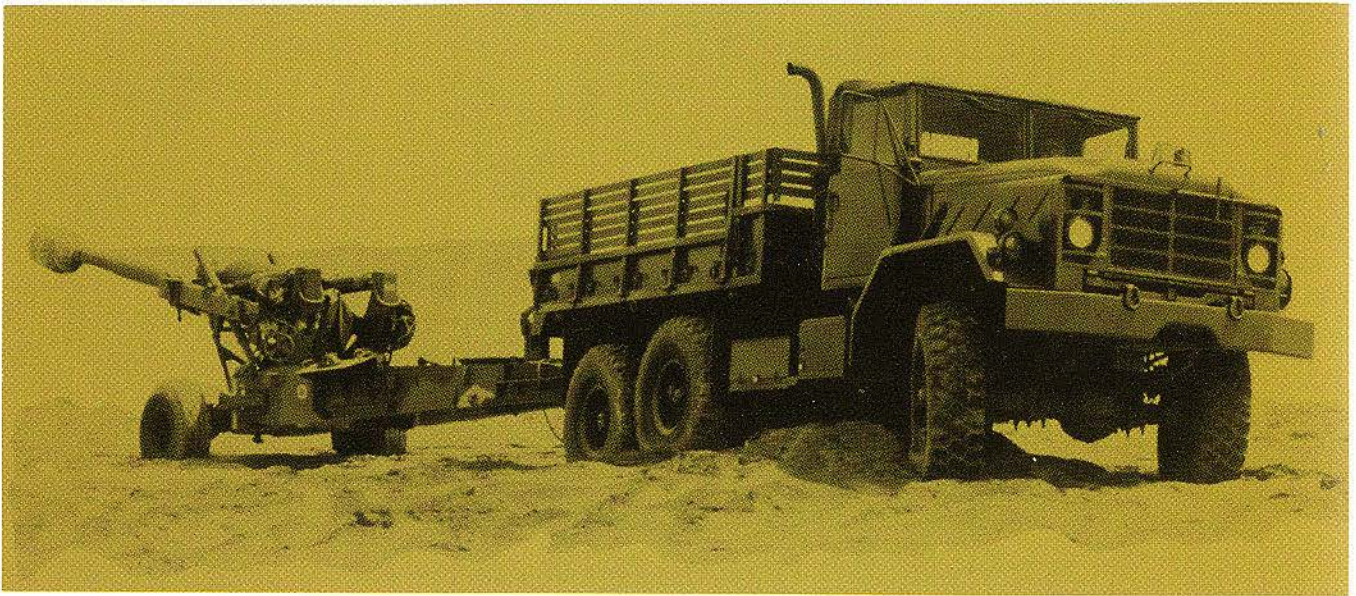
COLT'S NEW ASSAULT RIFLES

The Colt Firearms Division has introduced – in the series of its infantry assault rifles – new models derived by the well established M16 A2.

They are the 723 M16 A2 Carbine and 733 M16 A2 Commando, with a barrel length of 370 mm and 290 mm respectively.

The new line is completed by a M16 A2 HBAR, with a so-called "heavy" barrel, which will be employed as a submachine gun, with a bipod; total weight: 4.58 kg.





THE EMS SYSTEM

The AM General Division of the LTV Aerospace and Defence Company has produced the EMS System (Enhanced Mobility System) which could be applied on the 5 t trucks, series M939, in service with the U.S. Army.

The EMS is a centralized device for tyre pressure control, which can operate with the vehicle in movement.

The system permits to increase or decrease the tyre pressure – thus facilitating movement over sand, mud or snow – through a dashboard-located

control.

The driver can select four different types of pressure: 1.4 atm for mud, sand or snow; 2.1 atm for cross-country; 5.2 atm for fast driving on road; 0.7 atm for emergency conditions.

The result is a rapid adjustment to the conditions of the terrain, the capability of towing artillery pieces, a longer life for the vehicle, low operating and maintenance costs, higher comfort for personnel, greater safety in the transport of sensitive material. Other elements offered within the EMS system are high-flotation radial tyres, special

wheels and self-blocking differential gear.

The M939 series has a 5-year automatic transmission and a large cab for 3 persons. All models are standard as regards cab, engine, frame, brakes and electric components.

The M939 line includes the following options: cargo, troop carrier, recovery, dumper, artillery tractor, expandable structure type.

In 1984, AM General has been awarded a 262 million dollars contract, for the production of 4,186 M939s in all their various versions.

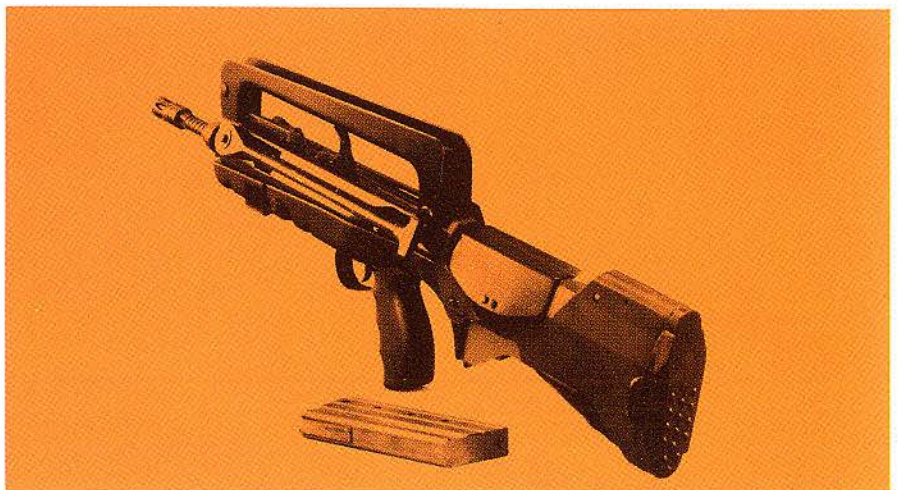
THE NEW "FAMAS" ASSAULT RIFLE CAL. 5.56

The French Army has recently adopted a new assault rifle, which employs NATO ammunition cal. 5.56. The new weapon is currently being distributed to the units.

The FAMAS rifle has been designed by GIAT to meet the French Chiefs of Staff Committee's request for a new generation individual weapon that could replace the automatic rifles and sub-machine guns now in service, relatively light-weight, with an effective range of up to 300 m, which could also be used as grenade-thrower.

The 5.56 calibre, amply available and standardized within NATO, was considered the most appropriate for this type of weapon.

The FAMAS is fed by a 25-round magazine, has a very limited size, is easy to handle and well balanced.



It can be used as antipersonnel grenade-thrower up to a distance of 400 m and can also fire antitank bombs.

The FAMAS has been initially distributed to infantry, paratroops and special units.

Oerlikon 35 mm Twin Field Anti-Aircraft
Gun GDF with the NDF-C Combat Effectiveness
Improvement Kit

Number one...



...in anti-aircraft cannon is the Oerlikon 35 mm twin field anti-aircraft gun GDF. This gun has been introduced into more than 20 countries.

Technological progress, knowledge gained from worldwide deployment and new aspects of the threat from the air have led to the adoption of combat effectiveness improvement measures.

- **Contraves automatic 3D sight:** autonomy improvement; parameter estimation eliminated
- **Automatic reloader:** increased ammunition supply with reduction of gun crew
- **Integrated power supply system:** into action greatly simplified
- **New gun control system:** simpler logistics
- **Weapon cover with integrated, automatic weapon lubrication system:** greater reliability
- **Optimized automatic cannon function:** enhanced operational availability



3D sight from Contraves

Automatic aiming device that processes all target, v_0 and meteorological data to continuously give lead data for the gun control system.



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FIAT 6640 G AMPHIBIOUS TRUCK

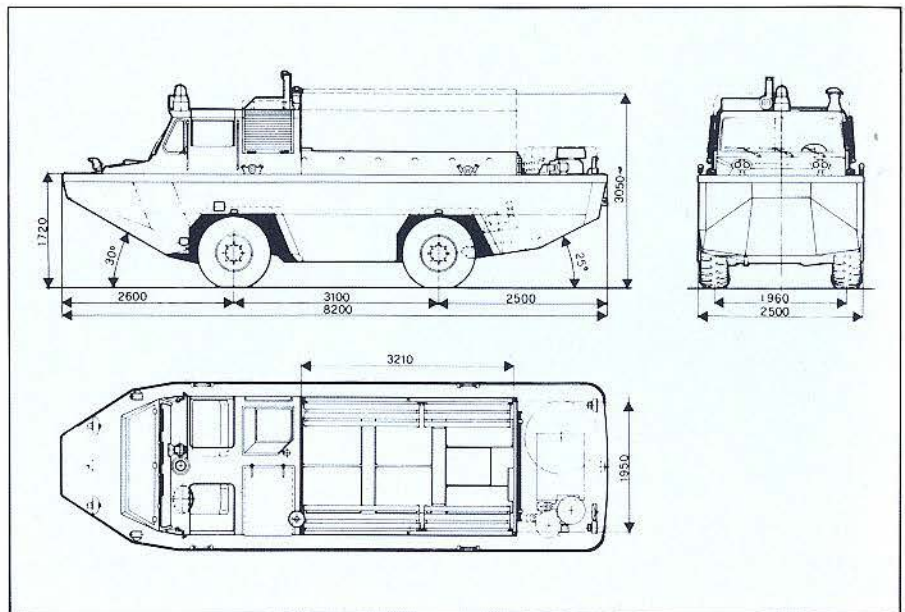
The FIAT 6640 G is an amphibious truck designed for rescue operations in flood or earthquake-damaged areas, but it can be employed in operations in swamps and marshes. Its on-road speed is approximately 100 km/h. Its excellent cross-country performance is ensured by the independent suspensions, the high-power engine, and the low specific pressure on the ground. Afloat, the vehicle can be pushed in all directions (360°) by a jet system, and can reach the speed of 11 km/h. Thanks to the absence of propellers in the propulsion system, it is possible to carry out rescue operations without safety risks. The flat-bottomed hull makes navigation possible also on low depths, with weeds or plants.

The cab sits three persons, while the rear tray can carry a crew of 14 men and ½ t of matériel. The bridge that runs around the hull facilitates the recovery and loading operations. Electric bilge-pumps ensure the evacuation of the water accidentally penetrated inside. On the hull there are attachments and rings for towing other craft.

On the rear, a small 0.7 t/m crane and a 4.5 winch can be installed.

SPECIFICATIONS

- Crew: 17 men.
- Payload: 2,000 kg.
- Weight, loaded: 8,450 kg.



- Max speed, on-road: 100 km/h.
- Max speed, on water: 11 km/h.
- Max gradient: 60%.
- Max transverse inclination: 30%.
- Turning circle: 7.5 m.
- Range (at ¾ max speed): 600 km.
- Engine: Fiat 8062, supercharged with aftercooling, six-cylinder, 5,499 litre diesel, water-cooled.
- Gearbox: automatic TX 100, with 3 forward and 1 reverse gears.

● Front and rear axles: simple reduction, with epicyclic reducer at the hubs. Front and rear differential gears can be blocked.

● Propulsion on water: centrifugal pump-jet, which can be oriented over 360° from the driver's seat, through an hydrostatic control.

● Fuel tank: 1801.

● Additional equipment (on request): 0.7 t/m loading crane, 4,500 kg double purchase Capstan type winch.





If reliability becomes dimension, if even the smallest risk has to be controlled as to conduct tasks safely, then the new 40-10 WM of Iveco shows what it's made of. Innovative engineering, progressive production technology and relentless test procedures – more than 2 million test-kilometers under tough conditions – are the basis for peak performance and reliability of the new 40-10 WM of Iveco. Its powerful 100 PS Turbo diesel engine with direct injection, high com-

WINNING TECHNOLOGY.

fort even cross country and its robust chassis permit the 40-10 WM to pass through all types of terrain, to reach his destination anywhere. As a carrier vehicle for weapons, for command and communications, or as an ambulance vehicle, it is simply indispensable in its broad range of employment. These are characteristics you can rely on.

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Bolzano (Italy) - Ulm (W. Germany).

NEW 40-10 WM. RELIABILITY AT ANY TIME.





"GUARDIAN" LAND ROVER ASA

At the 3rd International Exhibition on Security at Essen (FRG), Italy's ASA (Armoured Security Vehicles) has presented a new armoured vehicle, based on the chassis of the Land Rover One Ten.

The "Guardian" can be employed by the Armed Forces or Police in many tasks, as reconnaissance, patrols, surveillance of sensitive areas, escorts. It can carry – besides the driver – 7 fully equipped men who can fire their individual weapons through 6 loopholes. The "Asaloy" armoured plates and bulletproof glass ensure protection against bullets of a caliber up to NATO 7.62 mm as well as from artillery or mortar splinters.

The vehicle provides the same on-road and cross-country performance as the Land Rover One Ten 4x4, keeping its characteristics of reliability and easy maintenance.

The seating of the crew has been studied to provide a modern solution to the problem of the long stay of personnel inside the vehicle. The "Guardian" gives also a good protection from incendiary devices. The radiator is armoured and the fuel tank is self-sealing.



SPECIFICATIONS

- Crew: 8.
- Weight, loaded: 3,600 kg.
- Towing capability: 4,000 kg on-road, 1,000 kg cross-country.
- Max speed: 138 km/h.
- Max gradient: 100%.
- Max transverse inclination: 40%.
- Turning circle: 6.42 m.
- Range: 375 km.
- Engine: Land Rover 8V, 3,856 litre petrol, developing 114 hp (83 kW) at 4000 rpm.
- Max torque: 251 Nm at 2500 rpm.
- Fuel tank capacity: 68 litres.
- Optionals: air-conditioner, siren, loud-speaker, protective grating, armoured roof, radio equipment, self-sealing fuel-tanks.

"HUMMER" HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE

The "Hummer" has been conceived to meet the U.S. Army and U.S. Marine Corps' requirement for a new family of versatile, technologically advanced vehicles, able to serve in both combat and tactical/logistic support. Its chassis is designed as a platform for the TOW antitank missile system, for 50 cal. and 7.62 mm machine guns and for the 40 mm MK 19 grenade launcher. It can also be equipped with a remarkable range of electronic and communication systems.

Its good mobility, reliability and speed, make the "Hummer" suitable for a wide variety of missions. The vehicle will be produced in 15 different configurations: 4 cargo versions, 3 ambulances and 8 combat vehicles.

The "Hummer" prototype of AM General Division has gone through several months of hard trials at the Army



and Marine Corps testing grounds. The final model is a good combination of adaptability to all types of terrain, reduced weight, low profile and excellent front visibility.

The "Hummer" is constructed at the renewed AM General Division plant

of Mishawaka, Ind.

The contract awarded by the U.S. Army to the AM General Division of LTV Aerospace Company for the total amount of 1.2 billion dollars, envisages the construction of 54,973 vehicles in five years.



TORNADO AIRCRAFT WIN TWO IMPORTANT TROPHIES

"Tornados" of the RAF have taken part, for the first time, in the "Giant Voice" competition, organized in South Dakota by the U.S. Air Force, and devoted to bombing missions.

In two of the three contests in which they have taken part, the British "Tornados" have beaten the B-52s and F-111s of the USAF Strategic Air Command and the F-111s of the Royal Australian Air Force.

The "Tornados" of RAF 617th Squadron won first and second place in the "Le May Trophy" – awarded to the crew with the best score in three missions from high and low altitude – as well as first and third place in the "J.C. Meyer Trophy", awarded to the crew (non B-52) achieving the highest damaging effect in six low-altitude missions.

It is the first time that non-U.S. crews win the "Le May" and "J. C. Meyer" Trophies.

The success of the "Tornado" in these competitions – which include missions from 15,000-20,000 feet as well as from 500 feet is a demonstration of the aircraft's capabilities.

As is known, the "Tornado" is a



MACH 2, varying-geometry combat aircraft realized by Panavia, a European consortium which includes Italy, Great Britain and Germany; the aircraft is now equipping many units of the air forces of the three countries.

Within the consortium, Aeritalia is responsible for the construction of the wings of all the "Tornados" envisaged

by the project, as well as for the construction and tests of the aircraft to be assigned to the Italian Air Force.

The photo shows a pilot of the RAF 9th "Tornado" Squadron, holding the cassette with the mission programme which, inserted in the aircraft computer, will automatically guide the "Tornado" on the objective.

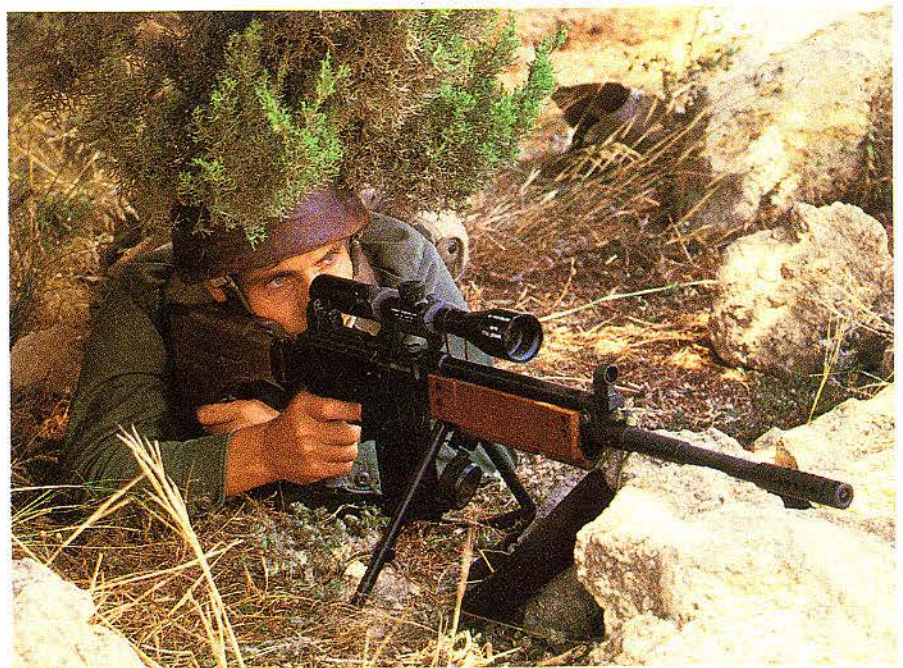
GALIL RIFLE FOR SHARPSHOOTERS

A semi-automatic gas-operated rifle with rotating bolt, the 7.62 Galil has been conceived to meet a specific request of the Israeli army.

The rifle, which employs the standard NATO ammunition 7.62×51 mm, is equipped with a "Nimrod 6X" telescopic sight – already in service with the Israeli Army – mounted laterally, in order to allow the use of the normal sights.

The rifle has a folding stock with an adjustable recoil-absorbing pillow, a bipod permitting remarkable movements in elevation and direction, a muzzle brake, and can be equipped with an image – intensification night sight. The Galil for sharpshooters weighs 6.4 kg, and is 111.5 cm long; barrel: RH, 1 turn in 305 mm.

With this weapon, a sharpshooter can hit a human target in the head at 300 m, in the bust at 600 m, and score a hit, in any case, up to a distance of 800-900 m.



NEW LYNX 3 HELICOPTER

The new "Lynx 3" helicopter, latest realization of Britain's Westland Helicopters, has two Rolls-Royce Gem 60 turboshaft engines and is equipped with composite construction blades for the main rotor.

The aircraft can be armed with air-to-air or air-to-ground missile systems, cannons, rocket launchers and machine guns; therefore, it has the capability to operate as antitank system, in close support actions, for the transport of personnel, in logistic support and medical evacuations.

The naval version can carry a greater payload than that of the present "Navy Lynx", and will be equipped for antisubmarine operations and surface attacks.

The "Lynx 3" has many components in common with other helicopters of the "Lynx" series and is equipped with new sensors and new electronic control systems.



"APILAS" ANTITANK ROCKET LAUNCHER

France's Manuthin has realized a "ready-to-use" lightweight antitank rocket launcher, which can be employed by one man; the name of the weapon is APILAS (Armour Piercing Infantry Light Arm System).

The weapon is 1.27 m long, consists of preassembled launcher and rocket, can work at temperatures between -31 and $+51$ centigrades, is completely waterproof and weighs 9 kg.

The "Apilas", when fired from the shoulder in standing position, can hit a target up to 300 m; with an additional sight it can reach an effective range of 600 m.

The rocket - calibre 108 mm, initial velocity 295 m/s - is fin-stabilized and has a 1,5 kg hollow charge, capable of penetrating 760 mm of steel plate (at 80 degrees obliquity).

The telescopic sight can be adapted for right - or lefthanded operators, and is equipped by a set of stadia, which provide the capability of firing without having to assess the range.

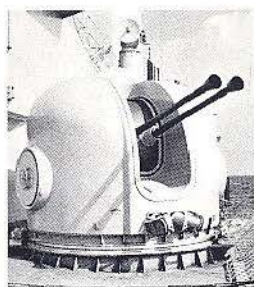
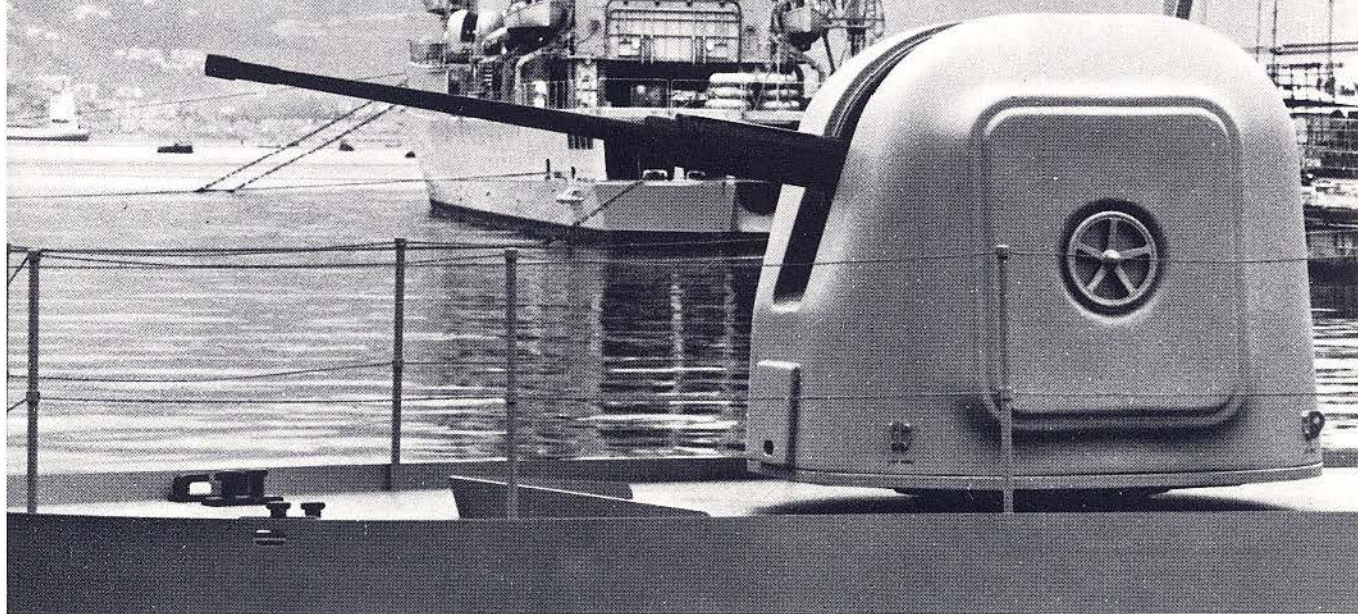
The weapon can be fired from the shoulder, in lying, kneeling or standing positions; during the evaluation tests it achieved a number of hits equal to 98% against fixed targets and 73% against moving targets.





SINGLE 30 COMPACT NAVAL MOUNTING

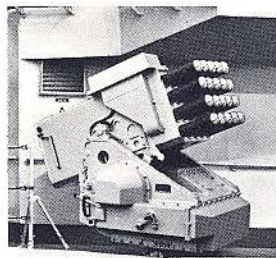
- *Light with no deck penetration*
- *Anti aircraft and anti surface
high capability*
- *Dual ammunition feed*
- *Environment protected*
- *Operational through
power failures*



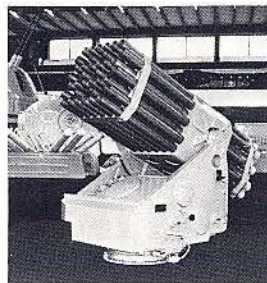
TWIN 40 L 70 COMPACT
NAVAL MOUNTING



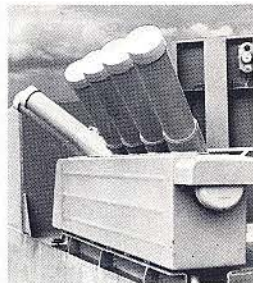
TWIN 30 COMPACT
NAVAL MOUNTING



105 mm NAVAL ROCKET
LAUNCHER MK II



81 mm NAVAL
ROCKET LAUNCHER



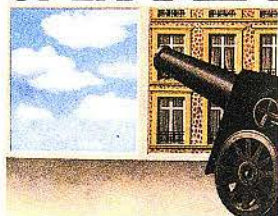
LIGHT CHAFF NAVAL
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FREEMAN DYSON ARMI E SPERANZA



F. Dyson: "Arms and Hope".
Boringhieri, Torino, 1984, pp. 345,
L. 25,000.

The author, a well known physicist, has worked for a number of years as a scientific consultant to the United States government. He is, therefore, uniquely qualified when it comes to evaluating the ties which bind technology and strategy. In analysing the problems created by the dawn of the nuclear age, his book concentrates on finding ways in which the two super powers might move beyond the current balance of terror, extracting themselves from the MAD syndrome and its constant threat of retaliatory strikes leading to mutual destruction.

Arms capable of mass destruction represent a reality which will not disappear. The "non-judicial" nature of international relations is also a reality. Differences between individual nations, and especially between the two superpowers, can not be eliminated by simply negotiating treaties, or even reaching a total disarmament. Force still plays a fundamental rôle, and this will continue to be the case. Nuclear strategic thinking, however, does include one fundamental, intrinsic contradiction: in the event of a direct conflict, it would destroy what it was meant to defend. No flexible or limited strategy can solve this problem. The fact is that any nuclear conflict would be extremely difficult to control. And so the two super powers have a mutual interest in avoiding such a disastrous course. But to do so, they must find a way around the stalemate which currently precludes any effort at negotiating an arms control agreement.

The author's intent is to come up with a technical proposal which both the United States and the Soviet Union

can consider a reasonable solution, at least in principle. Such a proposal must overcome the current dissimilarities separating United States and Soviet strategic thought: in other words, it must move the two parties beyond their irreconcilable strategic differences to a point where they can open up a constructive dialogue, free of rigid preconceptions and prejudices.

Dyson maintains that the United States must abandon its theory of limited nuclear war, the basis for the current policy of extended deterrence. He would also eliminate the NATO doctrine of flexible response. The Soviets will not accept these concepts. Indeed, they have stated that their response to a limited, selective use of nuclear arms would be a global counter-attack. The stalemate brought about by current nuclear arms policy not only exposes the two superpowers to the danger of a reciprocal holocaust, it also threatens them on the practical level. One can easily imagine the current deadlock producing a wave of auto-deterrence within the two opposing blocs. The resulting disintegration of the two alliances would certainly bring about new international tensions.

The superpowers could resolve the current impasse by shifting their emphasis from offensive to defensive nuclear weapons. This move would allow them to adopt a more rational strategy, one whose implementation would not bring about the destruction of humanity. Such a development could serve as the concrete basis for a progressive reduction of offensive arms.

The author is well aware of the risks attached to this course of action. The end of the interrelationship between conventional defences and nuclear arms along with a lessening of the threat posed by retaliatory strikes could upset current strategic balances, especially in Europe. Should this happen, the probability of a conflict would increase, and Europe would find itself without the one element which has guaranteed its military stability.

Dyson's proposal is essentially a wager, and not an inexpensive one at that. Among other things, it calls for a massive conventional rearmament. But it is a wager that should be accepted. The truth is that the new strategic order would involve much less risk than the current situation. In a certain sense, Dyson's conclusions are much the same as the ones underlying the United States Strategic Defence Initiative, though he has reached them by using a very different approach. The chief merit of the defence initiative was the incentive it gave the Soviets to begin new talks in Geneva. The technical scenarios proposed by Dyson could serve as the basis for concrete agreements between the two superpowers.

Carlo Bess

Massimo Mori La ragione delle armi

LA CULTURA 22

IL SAGGIATORE



Massimo Mori: "La Ragione delle Armi" ("The Logic of Arms").
Il Saggiatore, 1984, pp. 307,
L. 30,000.

War has always represented a fundamental socio-political phenomenon. And yet its rôle, indeed its very validity, have been subject to drastic revisions from one period of history to the next. The work under review examines German political and philosophical thought in the years between 1770 and 1830, analysing the way in which people's perceptions and understanding of conflict and war were transformed during this crucial period, one in which the generally accepted pre-nuclear theory of war was first established.

During the eighteenth century, the thinkers of the European enlightenment took a clear stand against war, defining it as a completely irrational concept, a relic from the past, something generated by the madness of a dynastic era. The military profession was looked down upon. Its practitioners were seen as mere machines. Brutally disciplined, with absolutely no idea as to why they were fighting, soldiers had become the unwitting instruments of a despotic power system which had no real interest in their welfare. Out of this situation grew a strategic philosophy in which major battles were to be avoided. To a sovereign ruler, the army was an essential element in the maintenance of domestic order. It was also irreplaceable, and, therefore, precious. Of necessity, operations centered around manoeuvres and counter-manoevres. Sieges were preferred to battles, and most actions led to static situations rather than decisive outcomes. The most logical war was a "non-war".

The political, social and strategic framework of conflict was profoundly



SOCIMI

Defence Division



Advanced but proven technology

Submachinegun type SMG 821, 9 mm parabellum

The SOCIMI SMG 821, Cal. 9 Parabellum
if you require the best in:

- compactness
- lightness
- controllability
- one hand handling
- reliability
- assembly and disassembly simplicity
- maintenance





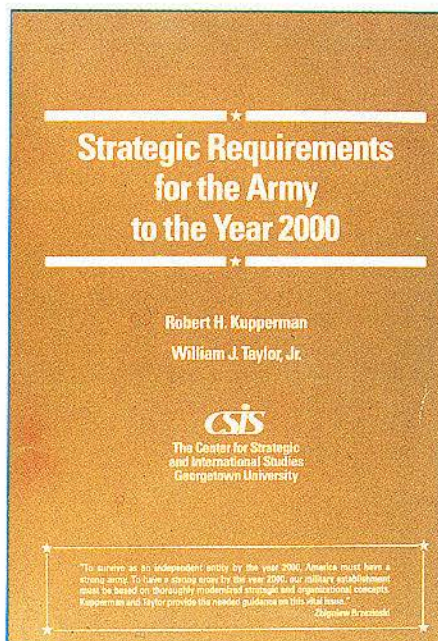
changed by both the American and French revolutions. The philosophical currents of the time reflect an awareness of the historic impact of these two events.

The fresh outlook they produced was a complete reversal of the philosophy of the Enlightenment. Social and political individualism was replaced by an organic vision of the state and society: one in which the interests of the individual were subordinated to those of the community. Wars became national and ideological causes. No longer subjects, but citizens, soldiers became increasingly aware of the close relationship between their own self-interest and the objectives they were fighting for. The military profession gained in dignity and importance. Politically, conflicts were now seen as serving a two-fold function: not only did they support and secure the interests of the community, they also helped to define and strengthen the law. Furthermore, war was thought to be politically inevitable. Given a system of international relations which lacked a judicial apparatus, war represented an effective means of resolving conflicts. In purely physical terms, war was considered to be a necessary phenomenon. In light of the strong antagonistic element in natural law, it actually seemed to contribute to the development of mankind. From an ethical point of view, it was accepted as a useful tool. War, it was thought, would strengthen the unity of the state while educating its people to the virtues of sacrifice.

The rise of the nation-state gave political and military leaders the ability to mobilize vast demographic resources. Beginning with Napoleon, strategic thinking stressed decisive battles. One's army might be destroyed, but this did not necessarily lead to the downfall of the internal power structure. The unity of any given state no longer depended on the will of a sovereign leader, but on the consensus of the people. The soldier became a thinking, responsible individual. As documented by Clausewitz, the massive transformation of the Prussian army, introduced by Stein, Scharnhorst and Gneisenau following the defeat at Jena, reformed not just the army, but the entire society. Clausewitz's most important contribution to military philosophy was not his theory on the political nature of war, but his thoughts on its social character. He recognized that moral forces and spiritual elements were essential to the success of an army and the power of a state. War was once again a rational, positive undertaking. The stage had been set for a radical transformation of all armed conflicts. This new ethos would reach its height during the two world wars, only to be challenged by the massive destructive power of today's nuclear arsenals.

Carlo Bess

R. Kupperman and W. Taylor jr. (editors): "Strategic Requirements for the Army in the Year 2000". Lexington Books, Massachusetts, 1984, 539 pages, \$ 18.00.



This book presents the summary of a very wide-ranging in-depth study carried out at the Georgetown University Center for Strategic and International Studies in co-operation with the Pentagon, the State Department, and American academic and research centres active in the fields of strategy, politics and technology. The study forecasts the challenges which the US Army will be faced with in the year 2000. It also supplies a list of the strategic and operational concepts which must be adopted to meet these challenges, along with a structural picture of how the armed forces will appear after the changes have been made. The research is meant to provide political and military leaders with a broad overview against which they can evaluate their long-term planning. It also analyses the most likely scenarios for future operations of the United States ground forces. As is always the case with studies forecasting distant events, the authors don't look for precise, definitive solutions. Instead, they have projected both the future evolution of the world political-strategic equation and the different rôle that the US Army must play if it is to go on adequately defending the United States interests. The global review covers everything from the advances in weaponry

to the internal evolution of both American society and the various single areas of strategic importance. The vital interests of each political-strategic zone are identified, as are the major concerns of the United States. At the same time, the study examines the factors threatening these interests, along with the counter-measures designed to nullify the threats. The entire analysis is based on the assumption that the USA must continue to act as a great power, fully accepting the responsibility of its rôle as leader of the free world.

The most striking aspect of the report – an effort which involved some of America's foremost strategic experts, including such former high-level government figures as Schlesinger and Brzezinski – is its relative lack of interest in the issue of European security. The whole subject takes up just one tenth of the document. In part, this reflects the commonly held opinion that a Soviet attack on Western Europe is highly unlikely, given the fact that such a move would lead to a general nuclear conflict. Furthermore, a long-term, conventional defence of Europe would seem to require a more active participation on the part of the Europeans themselves. Finally, the deterrence mechanism, based as it is on the tie between the European defence forces and the central, American deterrent, is thought to depend less on the structure of the American ground forces than on the political unity of the Alliance.

The most likely scenarios facing the United States Army involve operations outside the NATO region. South West Asia should become an area of particular concern. The need for special, "low-intensity" operations in different parts of Asia, Africa and Latin America may also arise. It is essential that timely preparations be made to meet all these eventualities. Absolute priority should be given to the development of light forces. These units should be extremely mobile, able to make use of "prepositioned" heavy weapons and supplies. An equal emphasis should be placed on special forces units assigned to non-conventional operations.

The present study clearly underlines the current trend in long-term US Army planning. The stress is on light, strategically mobile units trained for rapid intervention. Obviously, the reality of this situation has a direct effect on the European theatre and its defence system. A diminished American presence thrusts more of the military burden into Europe herself, forcing it to build up its conventional arsenals. Increasingly, this conventional rearmament represents an indispensable prerequisite to maintaining the close interatlantic strategic relationship which is, and will continue to be, the basis for our security.

Carlo Jean

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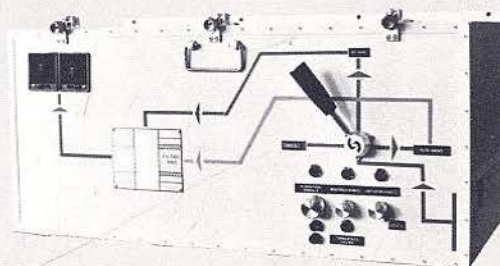
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NBC sweat-free outfit, complete with M59 respirator



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Rubber safety fuel tank

HYDRO-SIL collapsible tank for water





Various Authors: "Pace, Disarmo e Chiesa" ("Peace, Disarmament and the Church"). The Gregorian University, (Rome), 1984, pp. 205, L. 14,000.

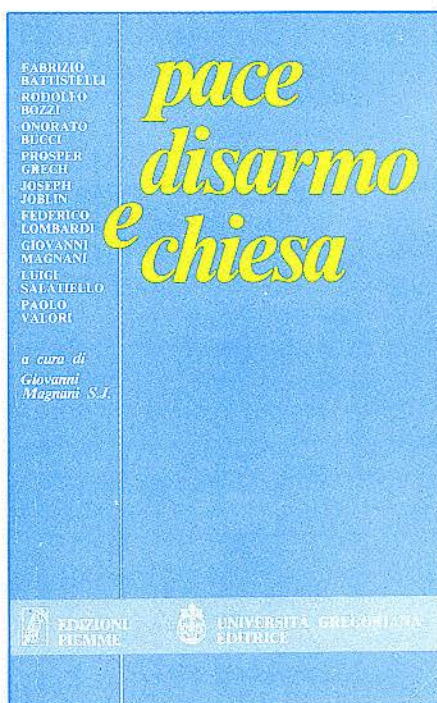
As it is emphasized in the introduction written by Father Urbano Navarrete, Dean of the Gregorian University, this book presents a study of the religious, ethical and moral aspects of violence. At the same time, it also develops the ethical conditions necessary to the establishment of a dignified co-existence on the international, social and family levels.

This line of thought represents a logical response to post-war Papal teachings. Whereas efforts towards peace were once considered to be nothing more than an eschatological counterweight to the pragmatic conception of the "just war", they are now seen as a very necessary and attainable goal.

With this change in attitude, laymen have become more involved in the process of creating and formalizing the different "strategies" for peace. As a result, the international discussion now includes each and every one of the interested parties, whatever their field may be: from philosophy to scientific research, from economic policy to the arms industry and the armed forces. Only in this way can a lasting peace be established, given the reciprocally dependent, interconnecting relationships which characterize the main political, social and economic topics of our time: the ideological challenge, the struggle to control both natural resources and the means of production, the basis for a possible redistribution of wealth, the goal of technological progress, the possession of new technologies, the global arsenal, the balance of power, and the international bodies that are charged with overseeing world relations.

The book under review clearly contributes to this search for a synthesis, approaching the task with an indispensable knowledge of the mechanisms which control both the domestic and foreign relations of different nations. Furthermore, it never loses sight of the fact that today's world already has the means, in terms of wealth and organization, to guarantee to all its peoples a life of dignity, a life in which both the physical and the spiritual side of Man are respected.

The book's various contributions – extremely well developed in terms of the nature and presentation of their topics – all share a reassuring, concrete relevance which clearly emerges in the course of their continual efforts to reconcile ethical principles with real-life problems. The end goal is to bring the solutions of the latter increasingly closer to the realm of the former, all the while



avoiding any radical extremes or traumatic breaks.

Though the highly prophetic thinking of the more doctrinal contributors tends to reconfirm the inevitability of certain existential choices for Christians (non-violence, for example), even these pieces emphasize that one's life must be lived in a full awareness of present-day reality.

The themes dealt with in the book are noteworthy both for their number and their complexity, but the number of contributing authors is equally large. As a group, they bring to their task a wide variety of life experiences and intellectual backgrounds.

The starting point is a look at applied scientific research in military related fields and the rôle which such activities allegedly play in the escalation of the arms race. The author concludes that the policies which presently govern scientific research and the use of science and technology must be revised in the spirit of the trinity "science-technology-conscience".

The next article examines war as a moral problem, arriving at a definition for the "extreme limit" case of a truly just war. This would be a war in which: "a people sincerely committed to a doctrine and a policy of peace, having been outraged and menaced, courageously attempts every possible means of negotiations, and then appeals unsuccessfully to international organizations ... when such a people, though fully aware of the grave physical and moral ills which are war's product, nonetheless

finds itself forced to take up arms in the defense of its very existence against an irrational, brutal, overbearing enemy, then that is a just war" (Paolo Valori).

Viewed in terms of a reasonable compromise between pragmatism and idealism, the same moral problems can give rise to a different, unexpected set of implications. Indeed, morality comes into play not only when arms are present in excess, but also when the resources set aside for defence prove to be insufficient (Luigi Salatiello).

The various peace movements, founded by private citizens as a response to the arms race and the willingness of their participants to demand an accounting from governments and other institutions, are seen as an important factor in the overall effort to eliminate nuclear arms, revive disarmament negotiations and – as an immediate result of the decline in nuclear weaponry – abandon the "first use" theory: all this despite the very real risk of an increase in conventional weaponry (Fabrizio Battistelli).

Naturally, the problems of war, peace and disarmament are of great concern to the Church. Its teachings, fully consistent with both today's changing times and the latest intellectual advances, offer a precious guide in the midst of change, an historical reference of proven validity, and a significant opportunity to unite numerous, seemingly divergent causes and movements in the pursuit of a common goal.

On the issue of nuclear arms, the call has gone out for a general disarmament in which all sides would reduce their weaponry by successive, simultaneous steps. This process includes no outright demand for unilateral disarmament, but it is rather the intended result of a transformation in which the systematic, freely accepted violence of today's "society of confrontation" would be replaced by a "society of affirmation" in which full expression is given to Mankind's positive values (Rodolfo Bozzi).

A further concern of the Church is the on-going development of a philosophy of non-violence (of which pacifism is often nothing more than a limited, partial version). This doctrine should be used as a tool in the effort to find and express, "the truth, peace's strength" (Onorato Bucci).

The theme of peace can also be traced through the Old and New Testaments. Indeed, it finds its initial synthesis in the Hebrew word "shalom" (whose definition of "well-being" applies to health, worldly possessions, family and society) and its ultimate expression in "koinonia", the doctrine dealing with the redistribution of superfluous wealth (Prosper Grech).

But naturally, the teachings of the Church also offer guidance in areas more closely related to the reality of everyday life. Having rejected the idea



of war as a "fated", and thus more or less inevitable, phenomenon, a commitment has been made to avoid and reverse all of war's possible causes in a search for true peace. Within this context, one can also find a legitimization for the system of obligatory military service. In today's world, such a policy represents both a right and a duty tied to the defence of a nation's liberty and the interests of the community in the face of an unjust aggression.

The Church also condemns the arm race in no uncertain terms ("it has become a spiralling process which grows according to its own rules, bearing no relationship to any genuine sentiments of aggression. The attempts of various nations to control it have all failed. It is truly a demented machine"). The

morally acceptable alternative is a détente "based on a balance of power, which does not represent an end unto itself, but a step along the road to disarmament" (Pope John Paul II in a message given in June 1982).

On the subject of conscience, the pure of soul, whose religious beliefs lead them to reject all violence, are credited with having made a dignified choice, while an equal respect is shown for those who dedicate themselves to serving their brothers by "giving order to Man's earthly dwelling place" (Joseph Joblin).

This lasting dichotomy between a "more prophetic" and a "more rational" commitment is the subject of the book's final piece, written by Giovanni Magnani.

The issue is an important one. Given the right interpretation, it can

function as the basis for a sustained effort towards a common goal. The process would be enacted step by step, with all the parties sharing the same ends, if not the same means. Contributions would come from sources which, despite their differences, are all equally indispensable: the theologian would be charged with proclaiming the "prophecy of peace" while pointing to the instruments which man has been given in order to attain true peace; the simple believer, the man of good faith, would struggle to overcome the contradictions offered by history and the reality of the present day by using these same instruments to construct a positive solution from the possibilities offered by the very forces of history and present-day reality.

Sandro Fantina

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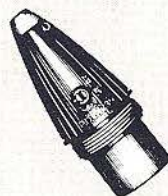
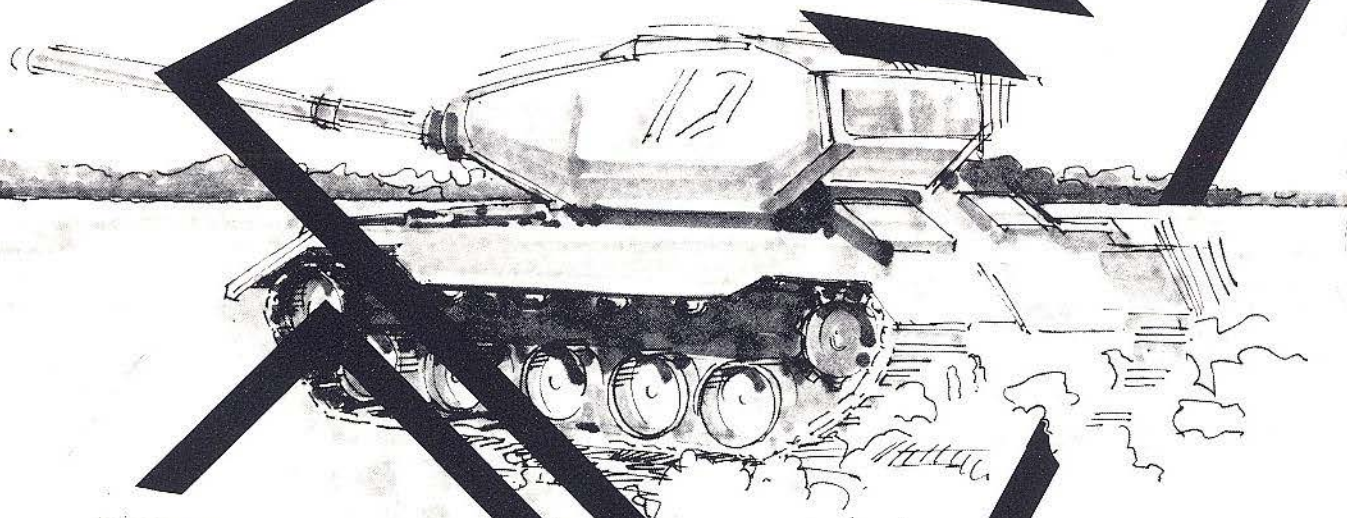
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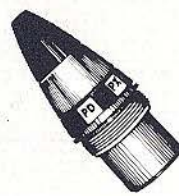
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